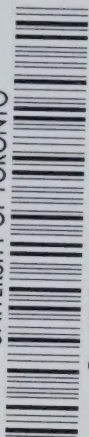


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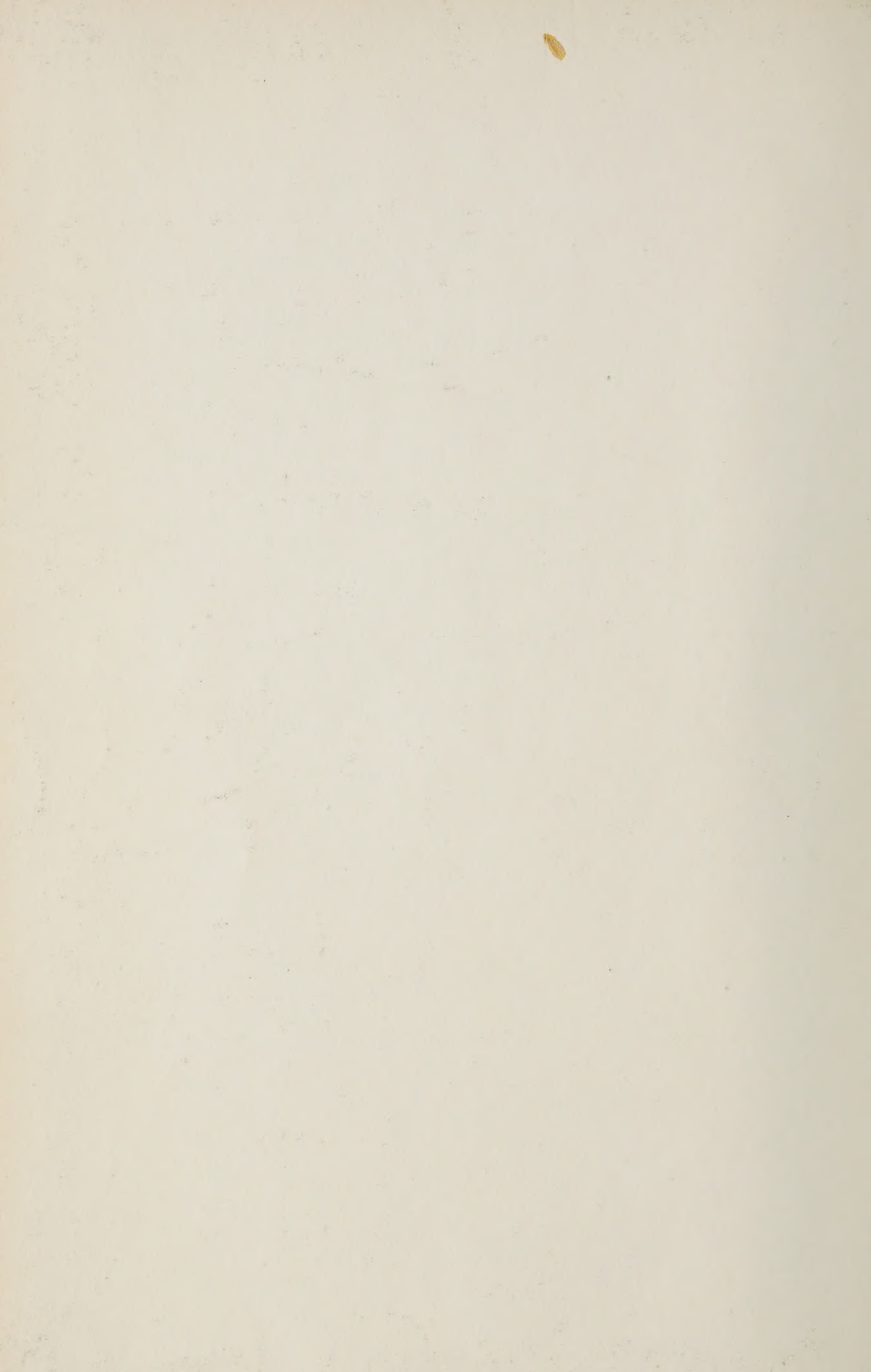


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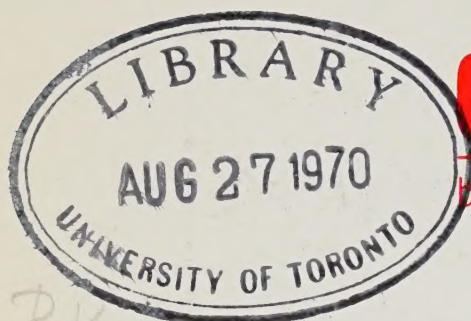
Journal

OF THE CANADIAN DENTAL ASSOCIATION
DE L'ASSOCIATION DENTAIRE CANADIENNE

JANUARY • VOLUME 35 • No 1 • 1969 • JANVIER



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brand of **mepivacaine HCl**

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**Carbocaine HCl 3%
without vasoconstrictor**

provides very rapid, profound anesthesia without unwarranted duration—particularly desirable in children's dentistry and modern high-speed restorative procedures. *Operating anesthesia* averages 20 minutes upper, 40 minutes lower.

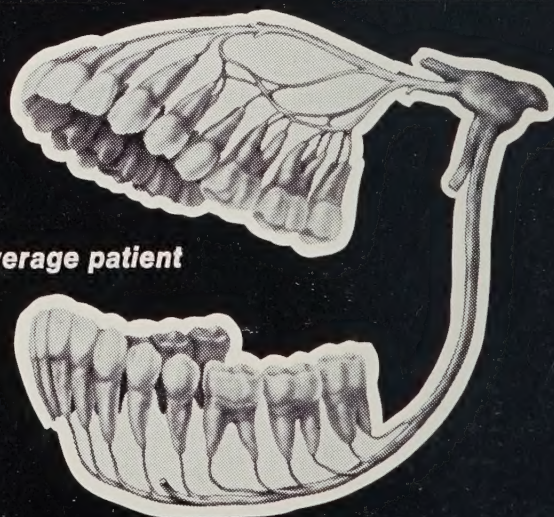
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offers rapid-acting, consistently profound anesthesia of sufficiently long duration that even extensive and complicated procedures seldom require reinjection.

FOR YOUR INFORMATION: These local anesthetic solutions are for dental block and infiltration injection only. There are no known contraindications in dentistry except for patients known to be sensitized. Inject slowly and avoid intravascular injection by aspirating. As with all local anesthetic solutions, adverse reactions due to intolerance, overdosage, or intravascular injection may occur and include nausea and vomiting, hypotension, convulsions and respiratory depression. Such reactions occur infrequently and usually are readily controlled by supporting circulation with a vasopressor and respiration with oxygen.

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Helping our Caribbean neighbours

Two different worlds are separated by a thin imaginary line, the Tropic of Cancer, not so many miles south of the tip of Florida. Here is where the Caribbean begins, starting with that legendary arc of islands called the West Indies. Lands of volcanic origin interspersed by a few low-lying coral isles, they stretch like a necklace almost to the mainland of South America, enclosing the inner tropic sea. Native and imported influences — Indian, Spanish, African, Dutch, British, French, East Indian, Scandinavian, American — have shaped the present way of life in the Caribbean where each territory is struggling to raise the standard of living of its people. Aiding that task are some of the young Canadian volunteers who serve two year tours under the auspices of the Canadian University Service Overseas (CUSO). Help of a different kind is given through the larger programs administered by the Canadian Government's External Aid Office. Filling a gap in between is the very special kind of assistance furnished by the Canadian Executive Service Overseas (CESO).

A brainchild of Canada's business community, Montreal-based CESO recruits top-flight business and professional experts for short-term assignments in developing countries with a need for their specific talent. Through its Board of Directors, which is drawn from the highest levels of Canadian industry, CESO has direct access to the executive suites of a large number of Canadian corporations and to the kind of men it needs. CESO has, in fact, already assembled a sizable talent bank of experts who are ready to volunteer their expertise abroad. Fattening this roster is one of CESO's continuing objectives — particularly with a view to helping the developing nations solve their health problems. Already well advanced is a joint Canadian Medical Association-CESO plan which has taken volunteer physicians to St. Vincent, Grand Cayman and Jamaica for brief periods of service and teaching. The recruits receive no salary but CESO pays their travelling expenses to and from assignments, and the host country looks after their living accommodation and maintenance. The underlying motive of the plan is to help the recipient territories achieve medical self-sufficiency and increase friendly relations with our Caribbean neighbours.

CESO has agreed that a similar Canadian Dental Association-CESO plan should also be investigated. The CDA is ready to support such a cooperative venture and the Executive Council has asked that two Canadian dentists make an initial survey of the Caribbean region. They are to visit several of the territories for an on-the-spot examination of local dental problems. The information thus gathered will enable CESO and the CDA to list the tasks they are prepared to support.

The CDA will also help to develop a register of dentists who are prepared to contribute from one to six months of their time without remuneration and to be posted, on reasonable notice, when and where their services are needed. A dentist who accepts such an assignment has to be a special kind of man. Professional expertise is, of course, a prerequisite but equally important are the personal qualities of tolerance and understanding without which the volunteer cannot be effective. His reward will come through the opportunity to travel and make new friends and from the satisfaction of putting his knowledge and skill to work helping our Caribbean neighbours reach their potential.

As Others See It

Relative values, professions and dues

The term 'relative value index' is so commonly in use these days that it seems legitimate to detach it from its usual frame of reference for a few paragraphs. An index of relative values has been in use in the medical profession for some time, and several studies have been done in dentistry. Such an index is a scale which measures the values of services in some fashion and derives a method of converting the unit value into monetary terms. In very plain language it establishes a value for one item or service in relation to another item or service. In the dental profession it could become a method to assist in determining fees.

But, generally speaking, everything in life has relative values to a given individual. A child with 10 cents to spend will weigh the value of many dime store items before parting with his money. The teenager with a small weekly allowance may weigh the relative values of going without lunch to take his favourite date out on the weekend. And certainly most adults know the consequences of failing to value their expenditures on a scale of relative importance.

In a similar trend of thought the relative values of a professional organization should be weighed. Occasionally the statement is heard that the professional organization is really nothing more than a union. It is only necessary to review definitions to clarify such a distortion. A union is defined as a labour organization created for the purpose of advancing (as by collective bargaining) its members' interests (as in respect to wages and working conditions). A profession is defined as a calling requiring specialized knowledge and often long and intensive preparation including instruction in skills and methods as well as in the scientific, historical or scholarly principles underlying such skills and methods, maintaining by force of organization or concerted opinion high standards of achievement and conduct, and committing its members to continued study and to a kind of work which has for its prime purpose the rendering of a public service.

If the two definitions could be redistilled down to a few meaningful words the contrasts would be starkly obvious. Professions should be concerned with

service to the public and continued education; unions are concerned with the earnings of their members. The challenge of responsibility is *relatively* greater for any profession. The challenge of performance is *relatively* greater for any profession. The command of respect *should* be relatively greater for any profession. The level of *support*, by its members, to a professional organization *should* be relatively greater.

Translated into monetary terms, what is the relative support given by union members and professional organization members to their respective associations? With a gross annual income of approximately \$6,500 the members of one union pay an initiation fee, and \$5 monthly: another union charges its members (average annual income \$8,100) \$54 per quarter plus 2 per cent of weekly net pay: still another union member pays \$7 monthly, after initiation, on an average annual salary of \$6,000. Reportedly, airline pilots are assessed 3 per cent of gross annual salary; average annual salary is reportedly \$18,000.

The average annual income figures for dentists are published periodically in the *Journal of the American Dental Association*, and analytically presented according to character of practice, use of auxiliaries, age, etc. From these figures it would seem reasonable to increase dues paid to the American Dental Association. Added to a pure monetary comparison are the many endeavours of the Association — endeavours that benefit each of us even though doubts may occasionally arise.

Unions and professional organizations separately serve purposes that are immiscible. Dentistry is a young profession. To grow in a competitive world will require sufficient funding. Dentists cannot afford *not* supporting their professional organizations in such a manner as to foster growth. Should we fail to properly protect and provide for this profession, consider the alternative. Consider the relative values of a profession.

D. A. Bensinger

Reprinted with permission. Greater St. Louis Dental Society Bulletin. Vol. 39, July 1968.

You have until February 28 to invest up to 20 per cent of your income or \$2,500, whichever is less, in your Canadian Dental Association Retirement Savings Plan as a 1968 contribution. Guarantee your retirement by joining now! Write to the Administrator of CDA sponsored Pension and Insurance Plans, Professional and Industrial Pensions Ltd., 2249 Yonge Street, Toronto 7, Ont.

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space and requires that all letters be signed. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

■
Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Toute communication doit être signée. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association dentaire canadienne. Vous êtes invités à participer dans cette section du Journal.

Oro-antral Fistula Treated with Lincomycin

To the Editor:

I must question certain opinions in the article by M. C. Gyde and E. G. Jarjour published in the Journal of last October.

I will not dwell on the questionable terminology used, such as claiming that the palatal root of the upper left first molar had a 'cyst' without microscopic confirmation. However, given the fact that an oro-antral fistula was created by the extraction of this tooth and was recognized at the time, why was the socket 'packed' with gelatin sponge which is a foreign substance? The following suppuration (five days later) could easily have been predicted. Moreover, given a sinusitis with an oro-antral fistula, it is difficult to believe that what the authors observed after five days was a 'mucosa-lined tract.' What lined the tract was no doubt a perfectly predictable, expected, and hoped for granulation tissue.

Placement of antibiotics in intimate contact with mucosa seems to me an excellent method of inducing the development of allergy to these substances. It is difficult to conceive, therefore, why lincomycin solution

was used for irrigation — particularly since irrigation with plain tap water would, I am quite sure, have had a similar effect. I am also perplexed by the surface application of gelatin sponge saturated with lincomycin and hydrocortisone and the placement of these agents in intimate contact with the mucosa "to seal and sterilize the wound and control residual inflammation." How can this 'seal;' how can it 'sterilize;' and why 'control residual inflammation?' Inflammation, in this particular instance, is a desirable biological response. Perhaps the authors had valid reasons for this treatment, but no explanations were given.

Finally, the fistula was (clinically) closed some 11 days after the extraction of the tooth. Was this because of, or in spite of, the treatment given?

S. J. Fisher, DDS, FRCD (C),
645 Fort St.,
Victoria, BC.

Additions to the Library

To the Editor:

On a recent visit to the CDA Library, I was very pleased to be able to borrow some recently published texts on periodontics.

At the same time, I am rather disappointed that the availability of such books is not more widely publicized. I recall that, in the past, lists of important new Library acquisitions appeared monthly in the CDA Journal. However, I have only noticed three such lists this year. Surely the appearance of this feature on a regular basis would be useful for those practitioners interested in taking advantage of the resources of the Library.

Is there any reason why a list could not appear in each issue?

W. H. Mills, DDS,
170 St. George St., Toronto, Ont.

Spiralling Journal production costs of the past four years have forced curtailment of many editorial features, including monthly publication of news from the Library. At present this feature appears at least four times a year and was actually published five times in 1968. More frequent publication will be resumed when economic circumstances warrant. (Ed.)

The Association

Seek Corporate Member Help for Children's Plan Demonstration Projects

Secretary W. G. McIntosh has invited corporate members to recommend suitable locations for demonstration projects under the Canadian Dental Association's Dental Health Plan for Children. The Board of Governors accepted the plan in Vancouver last June "as a practical means of improving the dental health of the nation." Citing a scarcity of factual data for the projection of costs and manpower requirements, the Board recommended demonstration projects to gather more information about initial and maintenance treatment requirements, dental health indices in children before and during their participation in the plan, treatment demand and utilization rates, the practicality of group fluoride therapy, the effect of the plan on private practitioners, and problems which may arise in the administration of the plan.

Dr. McIntosh said that it is desirable to operate demonstration projects in areas with different population concentrations and dentist-population ratios. Suitable study sites should include isolated, rural and urban communities as well as school districts of large metropolitan areas and areas with good, average and poor dentist-population ratios. Fluoride and non-fluoride areas should also be studied, he said.

Cooperation of the local dental society, local and provincial governments and education authorities is essential for the initiation of demonstration projects, Dr. McIntosh added. Other requirements include the availability of a dentist to co-

ordinate and direct a demonstration project and an agency to administer the prepayment portion of the dental plan.

Corporate members who propose potential project locations have been asked to support their recommendations with data about local dental resources, pre-school and school population, the character of local dental practice, characteristics of the local population, local dental health statistics, and potential sources of funding a proposed demonstration project. This information, said Dr. McIntosh, is required for the selection of project sites.

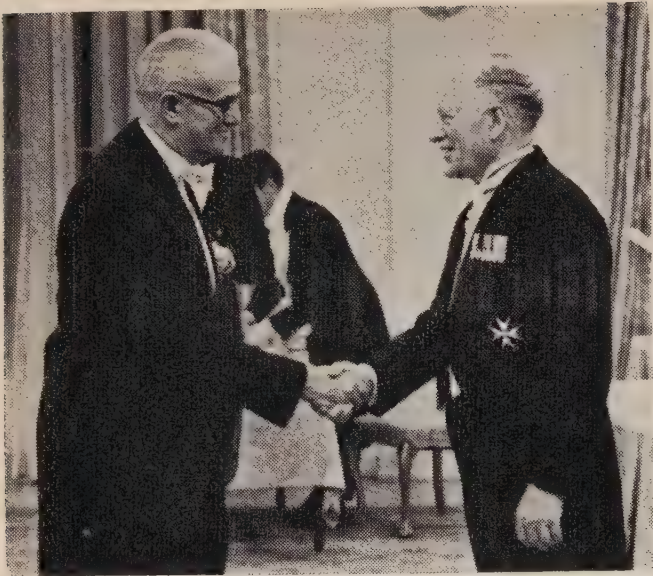
Four Corporate Members Raise CDA Grants to \$65 per capita

The 1969 CDA grants from the Newfoundland Dental Association, the Nova Scotia Dental Association, the New Brunswick Dental Society and the College of Dental Surgeons of British Columbia have been set at \$65 per registered dentist. The Saskatchewan College of Dental Surgeons will compute its 1969 grant on the basis of \$55 per registered dentist. The Prince Edward Island Dental Society has set its grant at \$50 and the Ontario Dental Association grant continues for another year at \$40 per registered dentist.

Committee Urges Support for Profession-Sponsored Prepayment Plans

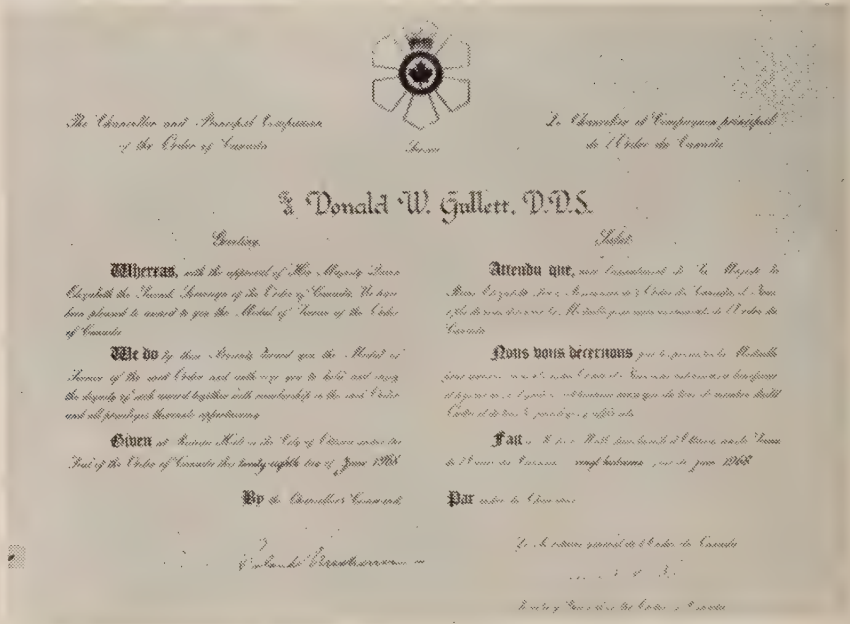
The CDA Dental Services Committee, at its November 24-25 meeting, urged the profession to take a 'major initiative' in providing profession-sponsored non-profit dental prepayment plans for the public. "These plans serve the public interest by setting high standards of dental care which competing [commercial insurance and other] plans must match," the committee declared. The existence of dental service corporations in all provinces would also facilitate the development of a framework for multi-province prepayment plans, the committee said.

The Dental Services Committee will ask the Board of Governors to (1) approve the principle of prepayment for dental services and (2) support the par-



Dominion Wide Photos

His Excellency, the Governor General of Canada, presented the Medal of Service of the Order of Canada to former CDA Secretary, Don W. Gullett, at an investiture held in Government House, Ottawa, on Tuesday evening November 12, 1968.



ticipation of profession-sponsored non-profit plans, with or without funding privileges, in the field of dental prepayment.

The committee praised the contractual arrangement between the Dental Services Association of British Columbia and a non-profit carrier whereby the DSA of BC retains full control over policies and the participation of dentists in DSA of BC prepayment plans while the carrier provides underwriting, funding and administration. "Such an arrangement permits the profession to implement profession-sponsored plans without incurring any financial risk," the committee said.

In other actions, the committee decided to:

Review the CDA list of dental services and the responsibility factor in the CDA

relative value fee system every three years;

Develop a system of priorities for recipients of public assistance dental services; and

Update the CDA's 1962 manual on *Group Practice*.

The committee also reaffirmed a 1967 Board of Governors resolution on fee schedules and recommended fee-for-service payment based on provincial fee schedules when dentists are compensated for services rendered to public assistance beneficiaries.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as

follows on November 30: Government Bond Fund \$13.754; Corporate Bond Fund \$14.974; Common Stock Fund \$27.750. Total assets (market value) of the plan were \$9,389,921.24.

The following common stock portfolio purchases and sales occurred during the preceding month: Bought 1,500 shares Getty Oil; Sold 1,200 shares Denison Mines and 4,000 shares Simpson's Limited.

For further information please write to the Administrator of CDA-sponsored Pension and Insurance Plans, Professional and Industrial Pensions Ltd., 2249 Yonge St., Toronto 7, Ont.

National Convention



Canadian Society of Orthodontists President Howard Oliver, Montreal, and P. V. Reid, president of the American Association of Orthodontists, are seen discussing program details for the upcoming national convention of the Canadian Dental Association in Montreal where Dr. Reid will deliver the Grieve Memorial Lecture. The two presidents met in Atlantic City, November 10-12, 1968, at a meeting of the Northeastern Society of Orthodontists.

Canada and the Provinces

Royal College to Recognize Non-specialist Experts

The Royal College of Dentists of Canada has announced its intention to implement Section 3 (d) of its act of incorporation

which permits the "recognition and designation of dentists who possess special qualifications in areas not recognized as specialties."

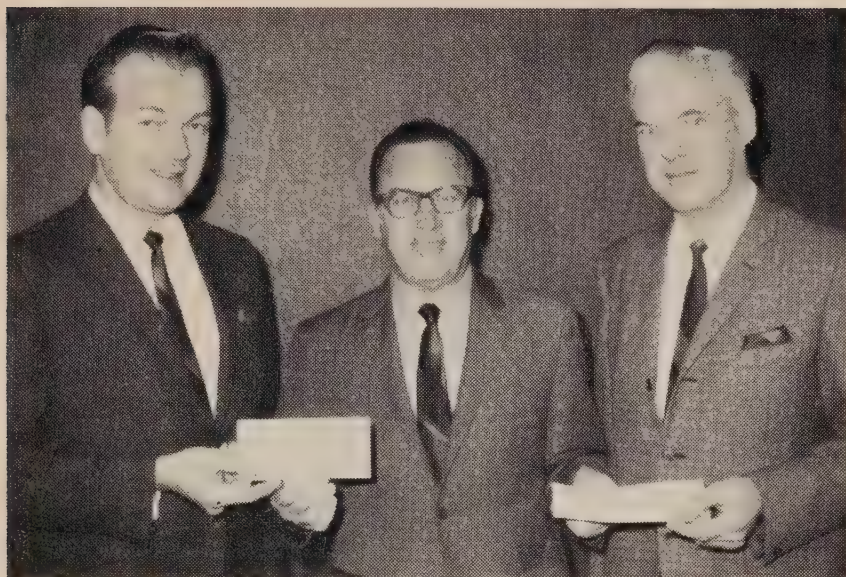
To accommodate these candidates, the College will establish a new Dental Sciences Division comprising charter fellows and fellows by examination. Charter fellows will be chosen without examination from among those dentists who are acceptable to the College by virtue of outstanding contributions made in their special areas for not less than 10 years. It is anticipated that candidates for charter fellowships will have held professorial rank for a lengthy period. Additional fellows will thereafter be admitted by examination. Details of these examinations will be released at a later date.

J. E. Speck, registrar-secretary-treasurer of the Royal College, has invited all current fellows, especially those associated with dental education, to submit names of distinguished dentists who may merit recognition as charter fellows in the Dental Sciences Division. Among those eligible for consideration are those candidates who have been active in graduate education programs, or have made outstanding contributions through teaching or research. Every submitted name must be supported by the sponsor's reasons for recommendation and by the candidate's curriculum vitae. All submissions must reach the registrar-secretary-treasurer before February 15 so as to permit review by the College's Credentials Committee and Council in March.

Address all communications in this matter to J. E. Speck, registrar-secretary-treasurer, The Royal College of Dentists of Canada, Suite 614, 170 St. George St., Toronto 5, Ont.

CFDE Month Contributions Reach New High

Dentists' gifts to the Canadian Fund for Dental Education set a new record last October, according to CFDE Chairman J. D. McLean. In 31 days a total of \$9,126 was received, a 257 per cent increase over contributions in the same period last year. The donations came from 680 den-



The Canadian Fund for Dental Education received cheques for \$2,500 and \$1,000 from the British Columbia Dental Association and the Vancouver and District Dental Society during 'CFDE Month' last October. British Columbia's regional CFDE representative, S. Margolese, centre, accepted the cheques from VDDS President F. A. Mitchell, left, and BCDA President F. A. Reid. Officials of the Fund report that the campaign was the most successful ever in CFDE history.

tists in all parts of Canada, including 432 new supporters of the Fund.

To the end of November 1968 the Fund received more than \$15,000 in personal contributions from nearly 1,000 dentists — more than double the amount received from this source in 1967.

General Stewart, Dr. Godfrey Attend Flanders Ceremonies

Two Canadian dentists returned last November to the historic French and Belgian battlefields where Canadian troops fought during World War I.

Brigadier-General J. S. Stewart of Lethbridge, Alberta, and R. J. Godfrey of Toronto were members of the official delegation which attended ceremonies in Europe, November 2-11, 1968, marking the 50th anniversary of the 1918 armistice.

General Stewart, now 91, had a distinguished military career in the South African War and World War I. He commanded the field artillery of the 3rd Canadian Division from 1917 to 1918 and led his unit in all the engagements in which the Canadian Expeditionary Force participated. On November 11, 1918, he commanded Canadian troops at a triumphal march-past in Mons, Belgium. General Stewart graduated from the Royal College of Dental Surgeons in 1903. He was also elected to the Alberta Legislature 1911-25 and to the Canadian House of Commons 1930-34.

Dr. Godfrey enlisted in the Canadian

Army Dental Corps upon graduation from the Royal College of Dental Surgeons in 1916. Posted to England, he later served as dental officer to the 12th Field Ambulance, 4th Division, Canadian Expeditionary Force, returning to Canada in 1919. Dr. Godfrey was professor and head of the Department of Prosthodontics at the University of Toronto prior to his retirement some years ago. He is a former president of the Royal College of Dental Surgeons of Ontario.

Another distinguished dentist who participated in last year's armistice ceremonies was L. V. Janes of Burlington, Ontario. Dr. Janes represented the Canadian Army Dental Corps at November 10-12 remembrance services in Ottawa.

Partial Denture Course in Montreal April 18-20

The Mount Royal Dental Society and the Montreal Alumni Chapter of the Alpha Omega Fraternity will present a course in updated concepts and practical techniques in partial dentures in Montreal April 18-20. Illustrations and clinical cases will be used to discuss practical denture design, clinical procedures, impression techniques, new innovations for porcelain abutments, occlusion and the solution of other problems. The course lecturer will be L. A. Weinberg. Cheques for the tuition fee of \$125 should be made payable to Irving Seltzer, Suite 107, 5757 Decelles Ave., Montreal, Que.

New Editor for Oral Health Magazine

J. M. Kerr, Toronto, has been named as the new chairman of the Editorial Board of *Oral Health* magazine. He replaces D. B. McAdam, Toronto, who held the same position since November 1966.

A 1966 graduate of the University of Toronto, Dr. Kerr brings to *Oral Health* 11 years of publication experience with Southam Business Publications Limited.

International Items

Dr. Hillenbrand, ADA Executive Director, to Retire December 31

Harold Hillenbrand, executive director of the American Dental Association for more than 22 years, will retire from this position on December 31. He will be succeeded by C. Gordon Watson of California. Dr. Hillenbrand began serving the ADA in 1942 as editor. In 1946 he assumed the position of secretary.

Dr. Brandhorst, American College Secretary, Retires

O. W. Brandhorst, executive secretary of the American College of Dentists for 33 years, retired on January 1. He is succeeded by R. J. Nelsen. Dr. Brandhorst began serving the ACD in 1935 as part-time executive secretary. In 1952 he assumed the position on a full-time basis.

Seek Lecturers, Clinicians for 1969 ADA Annual Sessions

Canadian dentists have been invited to participate in the scientific program of the American Dental Association's 1969 annual session in New York City. The meeting will be held in conjunction with the 57th annual session of the *Fédération Dentaire Internationale* October 12-16.

Applications for presentation of clinical lectures, table clinics, scientific and educational exhibits and motion pictures can be obtained from the Council on Scientific

Session, American Dental Association, 211 East Chicago Ave., Chicago, Illinois 60611, USA. Applicants should specify the area in which participation is desired. Applications must be received by the council before March 1 to be considered.

Singapore Assn. Slates First Meeting April 2-6

Canadian dentists have been invited to First Convention of the Singapore Dental Association April 2-6. Themes of the meeting are dental health and dental health education.

Canadian dentists who wish to present scientific papers are asked to submit details of such papers to the honorary general secretary of the Singapore Dental Association. The association cannot pay stipends or travelling expenses for lecturers. Reasonable accommodation is, however, available at one of the hostels of the University of Singapore at \$7.50 (US \$2.50) per day inclusive of meals during the convention.

For further information please write to Goh Beng Teik, Honorary General Secretary, Dental Clinic, Outram Road General Hospital, Singapore 3.

Dental Organizations

Newfoundland Dentists Elect Dr. Walsh

K. F. Walsh, St. John's, was elected president of the Newfoundland Dental Association when that organization held its annual meeting October 3-5. He succeeds R. W. MacLeod of Corner Brook. Other officers named with Dr. Walsh were J. J. King, St. John's, first vice-president; G. M. Hewitt, Gander, second vice-president; and R. A. Downton, G. P. French and C. P. Daly, all of St. John's, secretary, assistant secretary and treasurer respectively.

According to newspaper reports the association asked the government to provide funds to communities desiring fluoridation of their water supplies. A resolution passed reportedly says the "vast



CDA President Henri Brouillet described the CDA Dental Health Plan for Children at the annual Fall Clinic of the Montreal Dental Club last October 21-23. His two attentive listeners are G. D. Armstrong and H. L. Mussells, respectively president and president-elect of the Montreal Dental Club. Another speaker at this meeting of Canada's oldest dental convention was Warren Allmand, MP (Lib.—Notre-Dame de Grace) who described dentally-related activities of federal health agencies and urged fluoridation of the Montreal water supply.

amounts of money" which the department of health is spending on dental treatment programs would be reduced by fluoridation and "... the department has gone on record as favouring the fluoridation of water supplies as a safe and effective means of reducing the incidence of tooth decay."

Montreal Fall Clinic Draws 1,500

The 43rd Annual Fall Clinic of the Montreal Dental Club last October 21-23 drew a near-record attendance of over 1,500. Those who registered heard the following essayists and subjects: G. L. Courtade, New York City, restorative dentistry; R. E. Moyers, Ann Arbor, Michigan, orthodontics; W. H. Clem, Chicago, endodontics; H. W. Gilmore, Indianapolis, operative dentistry; R. M. Gibbons, Buffalo, auxiliary personnel; John Vincelli, Montreal, occlusal correction; L. E. Francis, Montreal, oral therapeutics; L. E. Kent, Montreal, dental uses for electronic scalpels; and Donald Kepron, Montreal, complete and partial dentures with periodontic splinting.

Also featured were three panels — one on preprosthetic oral surgery, another on

treatment of fractured children's anterior teeth, and a panel on oral cancer.

P. A. Ratcliff, San Francisco, lectured on periodontic disease in general practice at a special preconvention seminar October 19-20.

Montreal Club Meeting Features Oral Cancer

Early detection of oral cancer was the topic of a symposium at the November 1968 meeting of the Montreal Dental Club. The four participants from the Faculty of Medicine, McGill University, included E. Tabah, assistant professor of surgery and senior surgeon at the Royal Victoria Hospital, Montreal; Jean Bouchard, professor of radiology and therapeutic radiologist at the Royal Victoria Hospital; K. Marshall, assistant professor of pathology; and I. W. D. Henderson, assistant professor of surgery and pharmacology and assistant surgeon at the Montreal General Hospital.

Doctors Tabah and Bouchard discussed comparative treatment planning. Cytological and biopsy techniques were outlined by Dr. Marshall, while Dr. Henderson described the multitude of carcinogens in food, water and the atmosphere.

Canadian Dental Schools

Faculties Association Elects Dr. Lussier

Jean-Paul Lussier, dean of the Faculty of Dental Surgery, Université de Montréal, was recently elected president of the Association of Canadian Faculties of Dentistry. The ACFD held its first general meeting in London, Ontario, October 23-26, 1968.

Also elected were J. D. McLean, Halifax, vice-president, and A. T. Storey, Toronto, secretary-treasurer. G. J. Parfitt, Vancouver, and M. A. Rogers, Montreal, were named members of the Executive Council.

Toronto Faculty Slates Open House Feb. 2

Members of the public are again invited to visit Toronto's Faculty of Dentistry when the University of Toronto's dental building stages its annual 'Open House' on Sunday afternoon, February 2. The event provides an opportunity for everyone interested in dentistry to witness student exhibits and demonstrations and observe modern dental education in action.

The dental building is located at 124 Edward St., off University Ave., immediately south of the Hospital for Sick Children.

Economics

Czech Dentists Offered Test in Ontario

Czechoslovak refugee dentists will be allowed to practise in Ontario if they can pass a Royal College of Dental Surgeons licensing examination in May. The decision applies to Czech dentists who applied before December 31 of last year.

Without this action, they would have had to take a screening test in August and then spend at least two years in a dental school before they could practise in Ontario.

The RCDS action places the Czech dentists in the same category as dental graduates holding BDS degrees from certain British Commonwealth countries and Ireland and graduates from Scandinavian countries. Dentists from these lands need only pass the licensing examination to practise in Ontario; all others must enrol at a dental school and earn a DDS degree.

Self-Help Brings Dental Service to Small Manitoba Town

Every Tuesday a Winnipeg dentist visits MacGregor, a rural Manitoba town 20 miles west of Portage la Prairie, to provide dental care for residents of the community and surrounding district. B. D. Polos has made the weekly visits since last June. The service is a direct result of an experimental dental care project conducted at MacGregor during the summer of 1966. Participating in that project were town officials, the University of Manitoba and the provincial health department (J. Canad. Dent. Ass. 33:364, 1967).

This year the councils of MacGregor



Manitoba's provincial dental director, C. H. McCormick, second from left, observes the work of B. D. Polos, dentist since last June at MacGregor, Manitoba. Dr. Polos is in MacGregor every Tuesday to offer dental care to 4,000 persons in the community and surrounding district. Watching him are fourth year University of Manitoba dental students Earl Winestock, centre, and Jan Brown, right.



G. N. Winters purchased an established practice at 31 Royal Road North, Portage la Prairie, Manitoba, after he graduated from the Faculty of Dentistry of the University of Manitoba last spring. In July 1968 a dental mechanic moved in next door despite Dr. Winter's protests to the mayor of Portage la Prairie who is also the proprietor of both premises. Dental mechanics are illegal in Manitoba.

and adjacent areas allocated \$2,000 for setting up a dental office in a former Masonic hall. The provincial health department loaned the community \$5,000 worth of modern dental equipment.

MacGregor had previously been without a dentist for some 25 years. Now Dr. Polos is assured support of up to \$20 from the municipality for Grade 1 and 2 pupils while older children and adults pay fees comparable to those charged elsewhere in Manitoba.

BC Government Changes Policy over Welfare Dentures

Press reports indicate that British Columbia's public assistance beneficiaries needing dentures or denture repairs may in future obtain service from dental mechanics. The provincial welfare minister has reportedly agreed to a request from the Public Denturists' Society of BC for such a change in policy.

Under legislation passed in 1962, mechanics have been able to deal directly with the public to fit and make complete dentures, reline dentures and repair complete and partial dentures. Hitherto, however, government policy has not permitted access to such services by persons on public assistance.

According to the minister, the move is unrelated to the withdrawal of services from welfare recipients by some dentists

who had protested the government's low fee schedule for welfare cases.

Alberta May Join Federal Medicare in July

Alberta's health minister, J. Donovan Ross, has reportedly announced that his province may join the federal public medical insurance plan in July, the fifth province to do so.

Press reports say Alberta is making adjustments to its existing provincial plan so that it will conform with the federal one.

British Columbia and Saskatchewan already participate in the federal plan and Manitoba and Nova Scotia have announced their intention to enter on April 1.

Fluoridation

Ontario Fluoride Air Pollution Termed Not Dangerous

Fluoride air pollution in the Port Maitland area was never a danger to human health, a report tabled in the Ontario Legislature December 10, 1968 says. But danger to farm crops and livestock underlines an urgent need for comprehen-

sive anti-pollution action by the provincial government, it warns.

A three man committee which investigated air, water and soil pollution in the Port Maitland area, south of Dunnville, said that neither fluoride nor sulphur dioxide was present in sufficient amounts to menace humans. The committee, headed by G. E. Hall, former president of the University of Western Ontario, was appointed in November 1967 following a Canadian Broadcasting Corporation TV documentary, "Air of Death," which suggested that area farmers were dying of fluoride poisoning.

The Electric Reduction Company, a local fertilizer manufacturer, admitted to the committee that it was the source of fluoride pollution in Port Maitland. Most of the damage to crops and livestock was probably due to fluoride, the report noted. It criticized ERCO for not doing as much as is technologically feasible to reduce emissions. But the committee's harshest criticism fell on the CBC which "treated a complex problem in a way designed to create alarm and fear."

Among other recommendations, the committee urged a dental survey of area children in 1970 to assess the effects of fluoride ingested by them.

Fluoridation Expands in New Brunswick

Fluoridated water is being supplied to 20,000 more Canadians as a result of recently initiated fluoridation programs in New Brunswick where two Canadian Forces Bases at Chatham (5,000 population) and Gagetown (15,000 population) began to fluoridate their water last June.

BC Health Officers Back Fluoridation

British Columbia's twenty-five senior medical health officers have unanimously endorsed fluoridation. At a meeting in Victoria October 11, the health officers, representing all of the province's health units, passed a resolution strongly supporting fluoridation of all public water supplies.

Vancouver Fluoridation Plebiscite Fails Again

Fourteen municipalities serviced by the Greater Vancouver Water Board will continue without the benefits of fluoridation because of a provincial law which requires a 60 per cent favourable vote before institution of the measure.

Results of last December's voting show that Vancouver citizens favoured fluoridation by some 55 per cent while those in the outlying municipalities approved the measure by nearly 57 per cent.

British Columbia, which ranks ninth in use of fluoridation among the 12 Canadian provinces and territories, is the only one where more than a simple majority is needed to approve fluoridation if a plebiscite is required.

In plebiscites held in Ontario, Hamilton voted to retain fluoridation; Ajax, Goderich, Kenora, Petrolia, Tecumseh and Tilbury approved the measure; and Hanover and Sault Ste. Marie voted against fluoridation.

Fluoridation Benefits Prince George, BC

Thanks to fluoridation, dental decay in Prince George, BC, children has dropped by more than 61 per cent during the past 12 years, according to H. J. Hann, regional dental consultant for British Columbia's Northern Interior Health Unit.

In children aged 12-14, permanent tooth mortality and caries experience in upper incisors each declined by 86 per cent. Caries-free deciduous teeth in children aged 6-8 rose from 48.1 to 71.5 per cent during the same period.

These results, says Dr. Hann, are in sharp contrast with the dental health statistics of children in Quesnel and Dawson Creek where the water is not yet fluoridated.

Fluoridation Gains Mounting US Public Approval

Nearly eight of 10 adults in the United States who have heard or read about fluoridation have favourable attitudes to-

ward it. Almost six of 10 believe the decision to fluoridate or not to fluoridate should be made by a health authority such as the health department of communities involved.

These conclusions emerged from a recent sample survey of 1,482 adults conducted by the National Opinion Research Centre of the University of Chicago.

Eighty-two million Americans now have access to fluoridated water, either through naturally fluoridated supplies or from municipal facilities to which fluoride has been added.

City of London Favours Fluoridation

The Common Council of the City of London, England, decided last October 3 to ask the London Metropolitan Water Board to fluoridate the city's water supply. On previous occasions in 1965 and 1966 the Common Council rejected motions in favour of fluoridation and the city was the only one of 12 inner London boroughs not to accept it. The Metropolitan Water Board called recently for a review of all aspects of fluoridation and will take a vote this year on whether fluoride should be added to the water it provides.

Public Health

Three New Public Health Appointments in Ontario

Three dentists were recently appointed to public health positions in Ontario.

E. F. Shaunessy was named director of dental public health programs for the York-Oshawa District Health Unit and the Ontario County Health Unit. Dr. Shaunessy formerly practised in Wingham.

P. W. Arkle was appointed to the staff of the Leeds, Grenville and Lanark District Health Unit on his return to Ontario after eight years in Australia where he was a senior dental officer.

W. C. P. Wright was named director of dental public health for the County of

Grey-Owen Sound District Health Unit. Dr. Wright formerly practised in Milton.

Awards and Honours

CDA President **Henri Brouillet** was made an honorary member of the Société Dentaire de Montréal December 7, 1968.

J. S. Stewart of Lethbridge, Alberta, was honoured by the City of Mons, Belgium, when he attended ceremonies in Europe November 2-11 marking the 50th anniversary of the 1918 armistice. Dr. Stewart was in charge of the victory parade when Mons was liberated from German occupation just before World War I ended. His name is entered in the *Mons Book of Gold*.

Martha E. Law, Toronto, was the recipient of the Canadian Centennial Medal which was conferred in 1967 in recognition of valuable service to the nation.

A. M. Hunt, associate dean at the Faculty of Dentistry, University of Toronto, was recently appointed a member of the Medical Research Council of Canada, Ottawa.

D. K. Peters, St. John's, Newfoundland, has been appointed a member of the Newfoundland Provincial Health Council. Dr. Peters represents the Newfoundland Dental Association on the CDA Board of Governors.

S. L. Honey, Fenwick, Ont., was recently named a life member of the Ontario Public Health Association. A former editor of the *Journal of the Ontario Dental Association*, Dr. Honey is also dental director for the Welland and District Health Unit.

Deaths

Campbell, Donald Duncan. 75. Paisley, Ont. Royal College of Dental Surgeons of Ontario, 1924. 9-12-68. Survived by Edith (wife); Dr. Wayne, Malcolm and Ian (sons); and Mrs. L. Grant and Mrs. D. Laverty (daughters). Associate member CDA.

Deans, Franklin Murray. 73. Oakville, Ont. Royal College of Dental Surgeons of Ontario, 1916. 17-11-68. Survived by Marjorie (wife) and Mrs. Sadie Pickrell (sister). Associate member CDA.

Fallaise, Herbert Theodore. 73. Whitby, Ont. Royal College of Dental Surgeons of Ontario, 1925. 14-11-68. Survived by Florence (wife); Murray and John (sons); Mrs. B. B. Goodfellow (daughter); and Mrs. J. Kinsella and Mrs. J. C. Noble (sisters). Associate member CDA.

Lindsay, Ashley Woodward. 84. Toronto. Royal College of Dental Surgeons of Ontario, 1907. 9-12-68. Survived by Alice (wife); Ronald (brother); and Mrs. Marjorie MacIver (sister). Associate member CDA.

McLean, Robert Gordon. 94. Toronto. Royal College of Dental Surgeons of Ontario, 1895. 17-11-68. Survived by Mrs. Gordon Sheard (daughter); Mrs. L. G. Gallie (sister); T. G. Sheard and D. L. Sheard (grandsons); and five great-grandchildren. Associate member CDA.

Stockwell, Donald MacDonald. 58. Toronto. University of Toronto, 1933. 25-11-68. Survived by Catherine (wife) and Mrs. M. F. Roberts and Mrs. R. E. McLean (daughters).

Trelford, John Edward Alexander. 66. Upper Arlington, Ohio. University of Toronto, 1927. 26-11-68. Survived by Anne K. (wife); John D. (son); and Mrs. Marilyn A. Sauder (daughter). Associate member CDA.

in memoriam

Ashley W. Lindsay

Ashley W. Lindsay died in Toronto on December 9, 1968, at the age of 84. With his passing we have lost an individual who defied any sort of routine classification, a warm, gentle and perceptive friend. He was a man who found it difficult, if not impossible, to speak ill of anyone. None whom he has left could possibly speak ill of him. For it was his gentleness, above all, which impressed those who worked with him over the years. One could almost call it shyness, were it not that he found robust self-expression as a teacher and writer.

Though Canadian born and bred, it was to China that Ashley Lindsay made his most outstanding contribution. Unwaveringly devoted to the concept of helping others, he started in 1917 a modest dental school at Chengtu's West China Union University. In due time he became dean of its dental faculty (1921-50) while his

devoted wife served as university librarian and assistant professor of English. Recognized as a kindly, dedicated, skilful teacher, his colleagues ultimately rewarded him with their highest accolade by making him vice chancellor of West China Union University. But the tide of events which engulfed mainland China 19 years ago forced the Lindsays to return to Canada. And so, in 1952, Ashley Lindsay began a second career as editor of the *Journal of the Ontario Dental Association*. His dictum — "We are doing well, but we can do better. Let's find out how." — marks this man who, without fanfare and always in the background, so ably led our sister publication for more than 15 years.

He left us too soon, but in the days ahead we shall remember his words and he will live for us. May his life of devotion and dedication stand as a living memorial to Ashley Lindsay.

Canada

Annnonce des résultats de l'examen du Collège royal

Le Collège royal des chirurgiens-dentistes du Canada a annoncé les noms des candidats qui ont réussi aux examens de la première partie (sciences fondamentales), qui ont eu lieu du 16 au 19 septembre 1968. Ce sont:

Endodontie: J. S. Smith et C. D. Torneck, Toronto;

Chirurgie buccale: G. I. Baker, J. H. Gryfe et J. G. Zosky, Toronto; G. K. Hurd, Kitchener, Ont.; P. Mercier, Montréal et J. A. Miller, St-Jean, Terre-Neuve.

Orthodontie: M. Brown et E. Luks, Toronto; R. G. Bozek, Burlington, Ont.; R. A. Mitchell, Vancouver et W. J. Sinclair, Scarborough, Ont.;

Pédodontie: M. E. J. Curzon, Rochester, NY et B. A. Richardson, Kitchener, Ont.;

Périodontie: H. I. Taub, Toronto et K. H. Wright, London, Ont.;

Prosthodontie: H. J. Levin, Toronto.

Cours sur la prothèse partielle à Montréal, du 18 au 20 avril

La Mount Royal Dental Society et le Montreal Alumni Chapter de la fraternité Alpha Omega offriront un cours à Montréal, du 18 au 20 avril, sur les concepts actuels et les techniques concernant la prothèse partielle. On y traitera, au moyen d'illustrations et de cas cliniques, de la conception pratique, des processus cliniques, des techniques d'empreinte, des innovations concernant les dents-piliers en porcelaine, de l'occlusion et de la solution

d'autres problèmes. C'est le Dr L. A. Weinberg qui donnera ce cours. Les chèques d'un montant de \$125, pour les frais d'inscription, devront être à l'ordre du Dr Irving Seltzer, suite 107, 5757 avenue Decelles, Montréal, Qué.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association dentaire canadienne étaient les suivantes au 30 novembre; fonds d'obligations gouvernementales \$13.754; fonds d'obligations corporatives \$14.974; fonds d'actions ordinaires \$27.750. L'avoir total (valeur marchande) du régime se montait à \$9,389,-921.24.

Au cours du mois précédent, les transactions, achats et ventes, d'actions ordinaires ont été les suivantes: achat 1,500 actions de Getty Oil; vente 1,200 actions de Denison Mines et 4,000 actions de Simpson's Limited.

Pour de plus amples renseignements, veuillez écrire à: The Administrator of CDA-sponsored Pension and Insurance Plans, Professional and Industrial Pensions Ltd., 2249 Yonge St., Toronto 7, Ont.

Chronique internationale

Plus de 19,600 personnes à la réunion de l'American Dental Association, à Miami

Le Dr H. A. McGuirl de Providence, Rhode Island, est le nouveau président de l'American Dental Association. Il est entré en fonction le 31 octobre 1968, à la clôture de la 109e réunion annuelle de l'ADA, à Miami Beach.

L'assemblée des délégués de l'ADA a considéré près de 50 différentes questions dont des résolutions et rapports sur les permis d'exercer, l'enseignement continu et les cotisations. Elle a approuvé des résolutions, demandant instamment aux associations dentaires des états, en consultation avec les bureaux d'examen dentaires de:

1. "Mettre au point des mécanismes pour assurer l'enseignement continu des dentistes autorisés à exercer dans leur juridiction" et

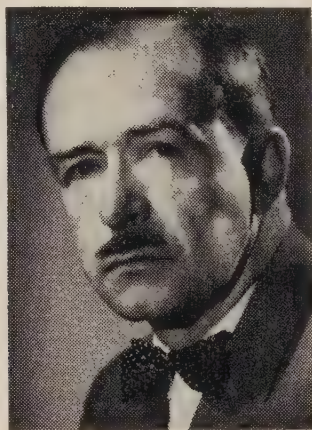
2. "Considérer continuellement les méthodes qui permettent de juger les titres des candidats au permis d'exercer".

L'assemblée des délégués a voté également une augmentation des cotisations de l'ADA: elles passeront à \$55, une augmentation de \$15.

Facultés dentaires canadiennes

Le Dr Lussier à la présidence de l'AFDC

Lors de la première assemblée générale de l'Association des facultés dentaires du Canada, tenue à la fin d'octobre dernier à London, Ont., le Dr Jean-Paul Lussier, doyen de la Faculté de chirurgie dentaire de l'Université de Montréal, a été élu président de ce nouvel organisme.



Le Dr J.-P. Lussier

Les autres membres de l'exécutif sont le Dr J. D. McLean, de Halifax, vice-président, le Dr A. T. Storey, de Toronto, secrétaire-trésorier, et les docteurs G. J. Parfitt, de Vancouver, et M. A. Rogers, de Montréal, conseillers.

Fluoration

Le Michigan passe la cinquième loi sur la fluoration

Le 19 juillet, le gouverneur George Romney a signé une loi demandant à toutes les localités du Michigan dont l'eau n'est

pas fluorée, d'adopter la fluoration dans un délai de cinq ans. Pendant cette période, les localités peuvent être exemptées de cette mesure, en passant une ordonnance locale ou par referendum. La loi n'autorise pas le State Health Department à ordonner la fluoration.

La Michigan Dental Association avait précédemment lancé une campagne énergique pour obtenir une législation plus positive et un projet de loi antérieur sur la fluoration avait rencontré des difficultés à la législature de l'état. La loi qui a passé n'a que peu de ressemblance avec le projet de loi original.

Quatre autres états américains ont des lois sur la fluoration: le Connecticut, le Minnesota, l'Illinois et le Delaware.

Les cachets ne remplacent pas la fluoration

Le Council on Dental Health de l'American Dental Association a déclaré que la fourniture aux enfants de cachets de fluorure gratuits était "loin de remplacer la fluoration de l'eau publique".

"Il est évident que tout programme contingent à l'initiative individuelle et à la coopération indispensable d'un grand nombre de personnes ne constitue pas une mesure de santé publique efficace", a déclaré récemment le Conseil.

Le Conseil a énuméré plusieurs inconvénients qu'il y a à distribuer des cachets de fluorure à une population importante. Il est difficile de les distribuer à tous les enfants qui pourraient en profiter et il est peu probable que les parents s'astreignent à les donner régulièrement à leurs enfants pendant les années de formation de la dentition.

Economie

Le programme médical de la Colombie britannique comprend des prestations dentaires

La Medical Services Association de la Colombie britannique a étendu ses prestations pour couvrir certains soins dentaires, aux termes de son programme d'as-

assurance-maladie. Seuls les groupes d'un minimum de 10 personnes peuvent participer à ce programme. Les primes mensuelles pour les soins dentaires vont de \$1.40 pour les célibataires à \$4.20 pour les familles. Les prestations comprennent deux examens annuels, certaines radiographies, des soins prophylactiques deux fois par an et l'application locale de fluorure une fois par an. Il n'y a pas de limites pour les extractions mais les restaurations, les dentiers et certains autres types de traitement sont exclus. Un porte-parole de la MSA a déclaré qu'il y avait toutes les chances pour que le programme s'étende petit à petit à plus de soins et plus de personnes.

La Dental Services Association de la Colombie britannique, qui est sous l'égide de la profession dentaire, a établi (en coopération avec la CU&C Health Services Society) un programme dentaire général qui paie jusqu'à 75 pour-cent des frais dentaires, à l'exclusion des services orthodontiques. Les primes aux termes de ce programme vont de \$4 par mois pour les célibataires à \$10.50 pour les familles. Plusieurs groupes, y compris des syndicats, adhèrent à ce programme.

La loi de l'Alberta autorise des examens cliniques pour les lauréats du Bureau national d'examens dentaires

Le Dental Association Act a été amendé récemment de façon à permettre à l'Alberta Dental Association d'établir des examens cliniques pour les dentistes détenteurs d'un certificat du Bureau national d'examens dentaires du Canada, qui désirent pratiquer en Alberta. La loi a augmenté également le montant des amendes disciplinaires pour en porter la limite à \$500.

Dans la province voisine de la Colombie britannique, le College of Dental Surgeons a réinstitué récemment des examens cliniques obligatoires pour les lauréats BNED qui désirent y pratiquer.

Ottawa veut se retirer de "Medicare" d'ici 1973

Ottawa a l'intention de remettre aux pro-

vinces la responsabilité de l'assurance-maladie "Medicare" et de certains programmes de bien-être social, dont le gouvernement fédéral et les gouvernements provinciaux se partagent actuellement les frais. D'après le premier ministre, M. P. E. Trudeau, cette décision remonte à au moins deux ans et l'ancien ministre des finances, M. Mitchell Sharp l'avait annoncé, en 1966.

Le chef de l'opposition conservatrice, M. Robert Stanfield, en s'adressant à la Chambre des Communes, le 9 novembre 1968, a noté que le gouvernement fédéral espérait se retirer du programme d'assurance-maladie "Medicare", au bout de cinq ans. Il a demandé s'il s'agissait de cinq ans après l'adhésion au programme d'une province donnée ou de cinq ans à partir de l'entrée en vigueur de la loi canadienne sur l'assurance-maladie. Le premier ministre, M. Trudeau lui a répondu que c'était à partir de la date d'entrée en vigueur de la loi, le 1er juillet de cette année.

Les dentistes devraient donner maintenant plus de responsabilités aux auxiliaires

A l'occasion d'une réunion scientifique, à Miami, le 30 octobre 1968, un professeur de dentisterie du Minnesota a recommandé à l'American Dental Association que la profession dentaire donne immédiatement plus de responsabilités au personnel auxiliaire, au lieu de recommander simplement une étude plus approfondie de la question.

Le Dr R. J. Isaacson, professeur d'orthodontie à la faculté dentaire de l'Université du Minnesota a déclaré "que l'enseignement dentaire traditionnel ne pouvait pas satisfaire à une augmentation soudaine et importante de la demande de soins dentaires".

Il a fait remarquer que les auxiliaires jouaient un rôle de plus en plus important dans l'exécution des soins dentaires mais que "les responsabilités confiées au personnel auxiliaire étaient limitées de façon assez précise par les lois des états sur la pratique dentaire". Le Dr Isaacson a dit qu'il faudrait utiliser les compétences du personnel auxiliaire de façon à ce qu'elles complètent les connaissances et les com-

pétences du dentiste diplômé. "Le public a le droit de demander et de recevoir des soins de la meilleure qualité possible et pour cette raison, c'est la personne la plus qualifiée à tous les points de vue, le dentiste, qui doit avoir l'autorité et la responsabilité suprême", a-t-il expliqué.

Il a déclaré que "ce sont les bureaux d'examens dentaires qui pourraient le mieux permettre une expansion maximum des soins disponibles, tout en protégeant les intérêts du public. A cette fin, ils pourraient distinguer les aspects de la pratique dentaire qui doivent être exécutés par un dentiste autorisé à pratiquer laissant la délégation des autres à sa discrétion".

La Commission américaine en faveur de nouveaux permis et d'un conseil de revision professionnel

La US Health Manpower Commission, nommée par le Président Johnson s'est prononcée en faveur du renouvellement des permis et d'un contrôle des compétences dans le domaine de la santé, par un conseil professionnel.

La Commission a déclaré que les professionnels doivent continuer à s'informer des développements scientifiques, une fois qu'ils ont reçu leur permis et qu'ils exercent. Les journaux et les manuels de références standard sont insuffisants et il ne suffit pas d'offrir des occasions de s'instruire, il faut que les intéressés en tirent parti.

La Commission recommande aussi que les sociétés professionnelles, les organisations qui s'occupent d'assurance-maladie et le gouvernement établissent différents mécanismes de revision professionnelle pour assurer la qualité des soins. La Commission propose que la revision par le conseil professionnel se fasse au niveau local et que les sociétés professionnelles jouent le rôle de commanditaires et de surveillants.

Les dentistes américains forment un groupe d'action politique

Un comité national des dentistes s'est organisé aux Etats-Unis pour que la profession continue à jouer un rôle effectif dans l'établissement de la législation fédérale qui touche à la dentisterie.

L'American Dental Political Action Committee (ADPAC) offrira ses services aux candidats et législateurs des deux partis politiques principaux qui prendront la responsabilité d'appuyer les objectifs législatifs de la dentisterie.

Distinctions honorifiques

Le Dr **Henri Brouillet**, président de l'Association dentaire canadienne a été nommé membre honoraire de la Société dentaire de Montréal, le 7 décembre 1968.

Jusqu'au 28 février, vous pouvez investir jusqu'à 20 pour-cent de votre revenu, avec un maximum de \$2,500 dans le régime d'épargne-retraite de l'Association dentaire canadienne. Assurez votre retraite dès maintenant en adhérant immédiatement à ce programme. Ecrivez à: The Administrator of CDA sponsored Pension and Insurance Plans, Professional and Industrial Pensions Ltd., 2249 Yonge Street, Toronto 7, Ont.



Aide aux pays en voie de développement

FDI aid to developing countries

Developing countries need aid in many fields that are essential to their very survival, let alone their further development. As a consequence, dental and oral health are often displaced from the list of services which require priority attention by the countries' own governments.

Food serves as an example. There is no developing country where a decent and balanced diet is taken for granted by the majority of the population. When enough bulk is provided, which is rarely the case, most of it comes as carbohydrate. Lack of a protein-balanced diet is thus endemic and getting worse. Adding to this problem is the fact that most people in underdeveloped countries live in numerous small villages. Governments, considering the circumstances, therefore give preference in development to the capital city, then to other cities, and lastly to the rural area. As a result, most of these nations have experienced a considerable population shift from the villages to the cities. This aggravates existing economic and health problems because people who somehow managed to survive on the verge of dietary imbalance in their natural rural surroundings are incomparably worse off in the city as slum dwellers.

Les pays en voie de développement ont besoin d'aide dans de nombreux domaines essentiels à leur survie, sans même parler de leur développement. C'est pourquoi la santé dentaire et buccale ne figure pas souvent sur la liste des priorités gouvernementales, de ces pays.

L'alimentation en est un bon exemple. Il n'y a pas de pays en voie de développement où la majorité de la population considère un régime alimentaire convenable et bien équilibré comme allant de soi. Lorsque le volume est suffisant, ce qui est rarement le cas, les hydrates de carbone en forment la plus grande partie. L'absence d'un régime bien équilibré du point de vue des protéines est, par conséquent, endémique et la situation tend à s'aggraver. Le problème est d'autant plus sérieux que dans les pays sous-développés la plus grande partie de la population vit dans des villages disséminés. Les gouvernements, étant donné les circonstances, donnent la priorité au développement de la capitale puis à celui des autres villes et ne s'occupent des régions rurales qu'en dernier lieu. Ceci aggrave les problèmes économiques et ceux de la santé, parce que les gens qui réussissent à survivre d'une façon ou d'une autre dans leur environnement rural naturel, en dépit du déséquilibre de leur régime alimentaire, voient leur situation empirer lorsqu'ils vivent dans des taudis urbains. Il faut considérer les difficultés en présence de malaria endémique, de tuberculose, de maladies parasitaires, sans oublier les conditions économiques. Celles-ci, à leur tour, s'ajoutent au manque de médecins et de dentistes. La combinaison de tous ces

The difficulties must be viewed against a background of endemic malaria, tuberculosis, parasitic diseases and economic difficulties. These, in turn, must be superimposed on the scarcity of physicians and dentists. The resultant combination of adverse factors makes aid to developing nations an urgent as well as a very difficult task.

The problem of providing dental care in these countries differs from our own both in extent and in quality — in extent, because the dentist population ratios vary from 1:20,000 to 1:500,000. Despite such absurd proportions, these ratios do not even reflect the situation in its true dimension. The few practising dentists are all located in the larger cities and take care of patients who can afford to pay for their services. With very few exceptions, no children are ever treated. And since there is already a growing deficit of dentists in well-developed countries, the dispatch of a few more practitioners to a few more cities in the underdeveloped nations will not remedy the problem. Developing countries should be helped and shown how to take care of themselves. Stop-gap measures will only increase their dependence as time goes by.

Hundreds of millions of people who live in some of the fastest growing population areas suffer from dental caries as well as periodontic disease. In Africa, at least, periodontic disease starts at a much earlier age and its prevalence is much greater than in European or other western countries. Caries is also on the up-grade in most of the developing nations. Half of the total population is usually below the age of 18 and four-fifths of the people are rural. They are scattered in small groups, often serviced by dirt tracks, and usually without running water or electricity. The few available dentists are very often foreigners who have little incentive in combatting oral and dental disease on a national scale. They are rarely organized and this, together with their limited number, does not give them much of a say in national health measures.

The Fédération Dentaire Internationale has a program to help developing countries—first, by trying to organize the local practitioners into professional associa-

facteurs rend l'aide aux pays en voie de développement aussi urgente que difficile.

L'administration des soins dentaires dans ces pays est un problème différent du nôtre aussi bien du point de vue de son ampleur que de celui de la qualité; du point de vue de l'ampleur des soins à rendre, parce que le rapport dentiste/population varie de 1:20,000 à 1:500,000. En dépit de leur ridicule, ces chiffres ne reflètent pas les dimensions réelles de la situation! Les quelques dentistes existants se trouvent tous dans les villes et s'occupent des patients qui peuvent payer pour leurs services. Sauf exception, les enfants ne reçoivent presque jamais de soins. Comme il y a déjà un manque de dentistes de plus en plus marqué dans les pays développés, on ne remédiera pas au problème en envoyant quelques praticiens additionnels dans quelques villes des nations sous-développées. Il faut aider les pays en voie de développement en leur montrant comment prendre soin d'eux-mêmes. Des mesures temporaires ne feront qu'augmenter leur dépendance.

Des centaines de millions de gens qui vivent dans des régions parmi les plus prolifiques au monde, souffrent à la fois de caries dentaires et de maladie périodontique. En Afrique, la maladie périodontique commence beaucoup plus tôt et son incidence est beaucoup plus fréquente qu'en Europe ou dans les autres pays de l'Ouest. Les caries sont aussi de plus en plus fréquentes dans les pays en voie de développement. La moitié de la population a généralement moins de 18 ans et quatre cinquième des habitants sont ruraux. Ils sont disséminés par petits groupes, reliés le plus souvent les uns aux autres, par des pistes de terre battue et, en général, ne disposent ni d'eau courante, ni d'électricité. Les quelques dentistes sont, la plupart du temps, des étrangers qui sont peu tentés de combattre les maladies buccales et dentaires à l'échelle nationale. Ils sont rarement organisés et, leur nombre étant restreint, ils n'ont pas beaucoup d'autorité lorsqu'il s'agit de prendre des mesures nationales dans le domaine de la santé.

La Fédération dentaire internationale a mis au point un programme pour aider les pays en voie de développement — en

tions. This gives them access to an international organization and generates new pride in their profession and encouragement in their endeavours. The fact of belonging to such an organization, even in a loose way, gives local associations a strong backing when dealing with government agencies, especially ministries of health or education. The Federation also cooperates with the World Health Organization to mobilize experts in epidemiology who can assess the dimensions of dental disease in each country. The FDI and WHO can plan and support the establishment of regional professional schools for dentists and auxiliaries who can then learn to cope with problems under conditions similar to those encountered in their home territory. Through its member associations, the FDI is also seeking ways of providing fellowships and indicating institutions where locally trained dentists can obtain further specialized education and subsequently return to their own schools as teachers. If requested, the FDI also advises government ministries about the value of prevention, priorities in treatment, the types of auxiliaries that may be desirable in given circumstances, and the education and training these auxiliaries require. Once national associations are established, the FDI can promote the formation of regional organizations that have a responsibility to their entire region as well as to their member countries. Such regional organizations already flourish in Europe and the Asian Pacific area.

The FDI thus follows its tradition of responsibility, not only by safeguarding the professional interests of its members, but also by implementing the ultimate goal of the dental profession: the promotion of better health.

essayant tout d'abord d'unir les praticiens en organisations professionnelles. Ceci leur permet de s'affilier à un organisme international, renforce leur fierté professionnelle et les encourage dans leurs entreprises. Le fait d'appartenir à une organisation de ce genre, même si les liens sont assez lâches, donne aux associations locales un poids considérable lorsqu'elles traitent avec des agences gouvernementales et plus particulièrement, avec les Ministères de la santé et de l'éducation. La Fédération coopère également avec l'Organisation mondiale de la santé pour mobiliser les experts en épidémiologie capables d'évaluer l'étendue des maladies dentaires dans chaque pays. La FDI et l'OMS peuvent planifier et aider à l'établissement d'écoles professionnelles régionales, afin de former des dentistes et des aides dentaires. Ceux-ci pourront alors apprendre à attaquer les problèmes dans des conditions similaires à celles qui existent chez eux. Par l'intermédiaire des associations qui en font partie, la FDI cherche aussi à fournir des bourses et indique quelles sont les institutions où des dentistes qui peuvent continuer à recevoir l'enseignement spécialisé qui leur permettra de revenir dans leurs propres écoles, en tant que professeurs. Si on lui en fait la demande, la FDI renseigne aussi les ministères gouvernementaux sur la valeur de la prévention, sur les priorités pour le traitement, sur le genre d'aides dentaires qui convient dans des circonstances données et sur l'éducation et la formation dont ces aides ont besoin. Une fois les associations nationales établies, la FDI peut encourager la formation d'organismes régionaux responsables envers toute leur région comme envers les pays membres. De telles organisations régionales existent déjà en Europe et dans la région asiatique du Pacifique.

La FDI continue donc à remplir son rôle traditionnel non seulement en sauvegardant les intérêts professionnels de ses membres, mais aussi en tendant, de façon pratique, vers le but ultime de la profession dentaire: la promotion d'une meilleure santé.

Ino Sciaky

Max Florence, DDS, Ottawa, Ont.

Replantation of a luxated incisor

The author records a case of successful replantation of a permanent central incisor following its luxation in an 11 year old patient. Root canal therapy was performed one year after the accident occurred. The tooth has survived for more than 10 years.

L'auteur décrit la technique de réimplantation qu'il a employé avec succès sur un patient de 11 ans dont une incisive centrale supérieure avait été luxée à la suite d'un accident. Le traitement du canal radiculaire n'a été fait qu'un an après et la dent demeure en place après plus de 10 ans.

Successful replantation has been reported following accidental traumatic luxation of permanent teeth.¹ The following report records a further successful replantation of an upper right central incisor which has now survived for more than 10 years.

CASE REPORT

On June 18, 1958 my 11 year old patient suffered an accident. The upper right central incisor was displaced from its socket, being held only by some tags of tissue (Figure 1).

The tooth was re-inserted and immobilized by ligature wire which attached it to the neighbouring teeth. This wire matrix was then painted with autopolymeriz-

ing acrylic resin in order to secure the tooth firmly. Six weeks later (August 5) the matrix was removed (Figure 2). The tooth was firm and asymptomatic.

I saw the patient again in April 1959. Her tooth was painful at that time and it was evident that the pulp had succumbed. I therefore commenced root canal therapy. In the course of three appointments the canal was enlarged to the diameter of a No. 6 file (Figure 3). Eugenol and camphorated parachlorophenol were introduced into the canal at each visit. Hydrogen peroxide 30 per cent (Superoxol), used as a travelling bleaching agent, was sealed in the pulp chamber between visits. Thereafter the root canal was completely obliterated with gutta percha points.

Subsequent annual radiographs have



FIGURE 1 Radiograph taken on the day of the accident (June 18, 1958) following replantation of the upper right central incisor.

FIGURE 2 Radiograph taken in August 1958 following removal of the splint.



FIGURE 3 Radiograph taken June 8, 1959. The root canal has been filled.

was always reformed after replantation and ankylosis was never observed. Hammer⁴ and Krömer⁵ found that the lifespan of replanted human teeth is directly proportional to the area of periodontic membrane which remains attached to the teeth. It is important, therefore, to avoid the use of sterilizing agents which may chemically affect the residual periodontic membrane on the surface of the root.

Shaw and Turcotte⁶ recommended selective root planing in order to bare some dentine which is said to stimulate the production of secondary dentine. They also advocated shortening of the root or making an opening through the buccal plate in order to reduce hydraulic pressure during replantation. My own patient's tooth apparently recovered even though I did none of these things.

Emmertsen and Andreasen⁷ have reported a clinical and radiographic study

revealed no deterioration in the root or periapical bone and no evidence of resorption (Figures 4 and 5). The most recent radiograph (Figure 6) in 1968 confirms this finding. The apical portion of the root appears re-contoured and there is evidence of deposition of new bone in the periapical region.

DISCUSSION

Successful replantation depends on the interval between loss of the tooth and replantation, care given to the tooth during this interval, extent of injury to the adjacent supporting structures, and stabilization during the repair stage.²

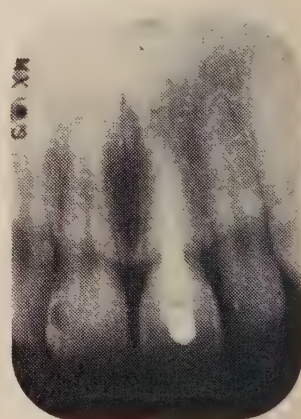
Löe and Waerhaug³ have shown that experimental replantation of teeth in dogs and monkeys depends on the presence or absence of a vital periodontic membrane. In teeth replanted with vital periodontic membrane, the membrane

FIGURE 4 Follow-up radiograph taken in March 1962.



FIGURE 5 Follow-up radiograph taken in May 1964.

FIGURE 6 Follow-up radiograph taken in April 1968. There is no sign of root resorption. New bone has been formed in the periapical region.



of 100 molars with periapical infection replanted after extra-oral root filling. The maximum observation period was 13 years. Thirty-four per cent of their replanted molars with a minimum observation period of one year showed healing of the periapical infection and no radiographic signs of resorption.

Although the root of my patient's tooth was almost fully formed at the time of the accident (Figure 1), the apical third of the root canal seems narrower now (Figure 6) than when it was filled (Figure 3). This, together with the absence of resorption during the past 10 years, suggests that it may be desirable to delay root canal therapy in replanted teeth until such treatment is necessary. One case does not warrant any firm conclusion; yet I have observed root resorption in many teeth which were subjected to root canal therapy immediately before replantation.

Given the proportion of infected teeth that seem to recover, it seems reasonable

to assume that an even greater proportion of luxated teeth may respond successfully to replantation. The replantation and immobilization of such teeth therefore seems justified provided they are kept under observation and provided root canal therapy is given when this becomes necessary.

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Management of injuries to deciduous incisors

S. A. MacGregor, DDS, Toronto, Ont.

Trauma or infection resulting from accidental injuries to deciduous incisors may cause hypoplasia, hypocalcification or dilaceration of the permanent successors. Intruded deciduous teeth should be extracted to minimize injury to developing permanent incisors. Teeth which turn blue-black are apt to become infected and should also be extracted to minimize the risk of damage to permanent successors. Teeth which turn brownish-yellow are indicative of partial or total calcific obliteration of the pulp chamber. Such teeth can usually be retained until they are shed in the normal way.

Le traumatisme ou l'infection causée aux incisives temporaires par des accidents, peut provoquer l'hypoplasie, l'hypocalcification ou la dilacération des dents permanentes qui les remplaceront. Il faut extraire les dents temporaires enfoncées pour minimiser la lésion aux incisives permanentes en voie de formation. Les dents qui noircissent ont tendance à s'infecter et doivent être extraites pour éviter d'endommager les dents permanentes qui les remplaceront. Les dents qui deviennent brun-jaune indiquent une oblitération calcifique partielle ou totale de la chambre pulpaire et il est généralement possible de les laisser en place jusqu'à leur exfoliation.

Premature loss of the deciduous molars is apt to result in loss of space for their permanent successors. This problem does not arise with deciduous anterior teeth. Most authors agree that space maintenance in the incisor region is unnecessary after the deciduous cuspids erupt. As a result, many dentists pay scant attention to injured deciduous anterior teeth. They overlook possible damage to the unerupted permanent successors and the potential effect on general health.

The colour of the injured deciduous tooth is important in making a diagnosis. A tooth which turns black is indicative of a dying pulp; abscess and sinus formation may therefore eventuate.¹ A brownish-yellow tooth is indicative of partial or total calcific obliteration of the pulp chamber, a fact which can be radiographically verified. Such teeth rarely become infect-

ed; their roots are usually resorbed in the normal way.

Injuries to deciduous incisors may cause four different kinds of defects in permanent successors:

1. Hypoplasia affecting only the outer enamel layer; this lesion is visualized as a radiolucent area in a pre-eruption radiograph.

2. Hypoplasia affecting enamel and dentine; this lesion can likewise be visualized in a pre-eruption radiograph.

3. Hypocalcification evidenced by a white or yellow patch; this lesion cannot be detected radiographically.

4. Dilaceration.

Injured deciduous incisors are often allowed to remain in the mouth for the sake of appearance. Apically displaced teeth are sometimes left on the assumption that they will erupt again. Some

teeth are simply kept under indefinite observation. One can hardly criticize the latter course because there is very little clinical research evidence to substantiate any particular form of treatment. Moreover, the time lapse between the occurrence of an accident and eruption of the permanent teeth militates against the compilation of adequate records from which to deduce cause and effect relationships. Some practitioners, on the other hand, go to extraordinary lengths in order to save an injured tooth. One author reports that a general anaesthetic was given to an 18 month old child to perform endodontic treatment on an upper deciduous central incisor. Before going to such lengths it is necessary to weigh the importance of the procedure against the risk entailed.

Bennett² says that cysts may form when discoloured or non-vital teeth remain without treatment for a long period of time. Such cysts can displace or delay the eruption of the permanent teeth and should be excised immediately. Bennett emphasizes that injuries to the deciduous anterior teeth may cause hypoplastic pitting on the surface of permanent incisors. A zone of hypocalcification, ranging from white to deep yellow, may result. These defects may be due to the traumatizing force or the action of septic products arising from a septic pulp. More severe trauma can cause dilaceration of the crown or root of the developing permanent incisor; the age of the child and the stage of development will determine which part of the tooth is affected.

Olsen,³ referring to diagnosis, believes "it is more difficult to evaluate the status of primary incisors radiographically than it is to denote any change in the periodontic space or lamina dura surrounding the permanent incisor because in a radiograph of a primary incisor there is a superimposition of the permanent incisor over the apical region of the primary. Thus in evaluating the vitality of the primary incisor, the dentist cannot depend solely on radiographic evidence, but must supplement his assessment with a thorough clinical evaluation."

Finn⁴ says that if "a tooth has been intruded in a slightly lingual position so as to impinge on the developing permanent

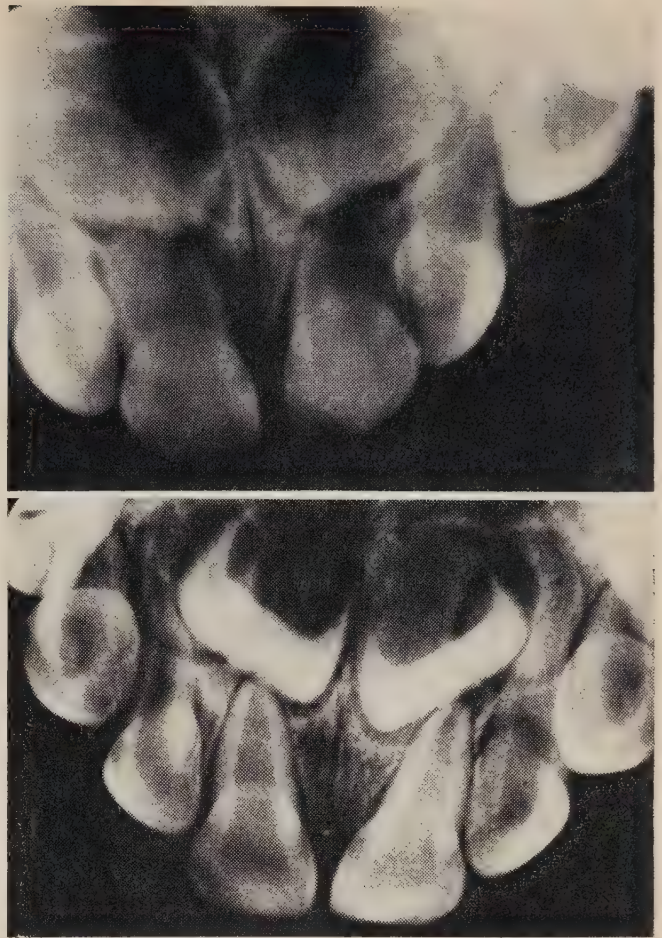


FIGURE 1 Radiographs show development of permanent teeth in 18 and 24 month old children respectively.

tooth bud, the tooth should be extracted and if the intruded tooth becomes non-vital, it should be extracted." Finn corroborates Bennett's views in speaking about the possibility of damage to the permanent tooth under such circumstances.

CLINICAL MANAGEMENT

The child's general health should be our first concern in making a clinical evaluation. Hospital experience shows that all potential sources of infection must be eradicated in children with a history of nephritis, diabetes or cardiac disorders. In this connection, it is well to remember that vitality tests can be very unreliable in infants and young children. *why?*

Treatment must be based on (1) the general health of the child, (2) the child's age and the relative development of the permanent successor, and (3) the severity of the accident. Included with the latter are such considerations as the time that

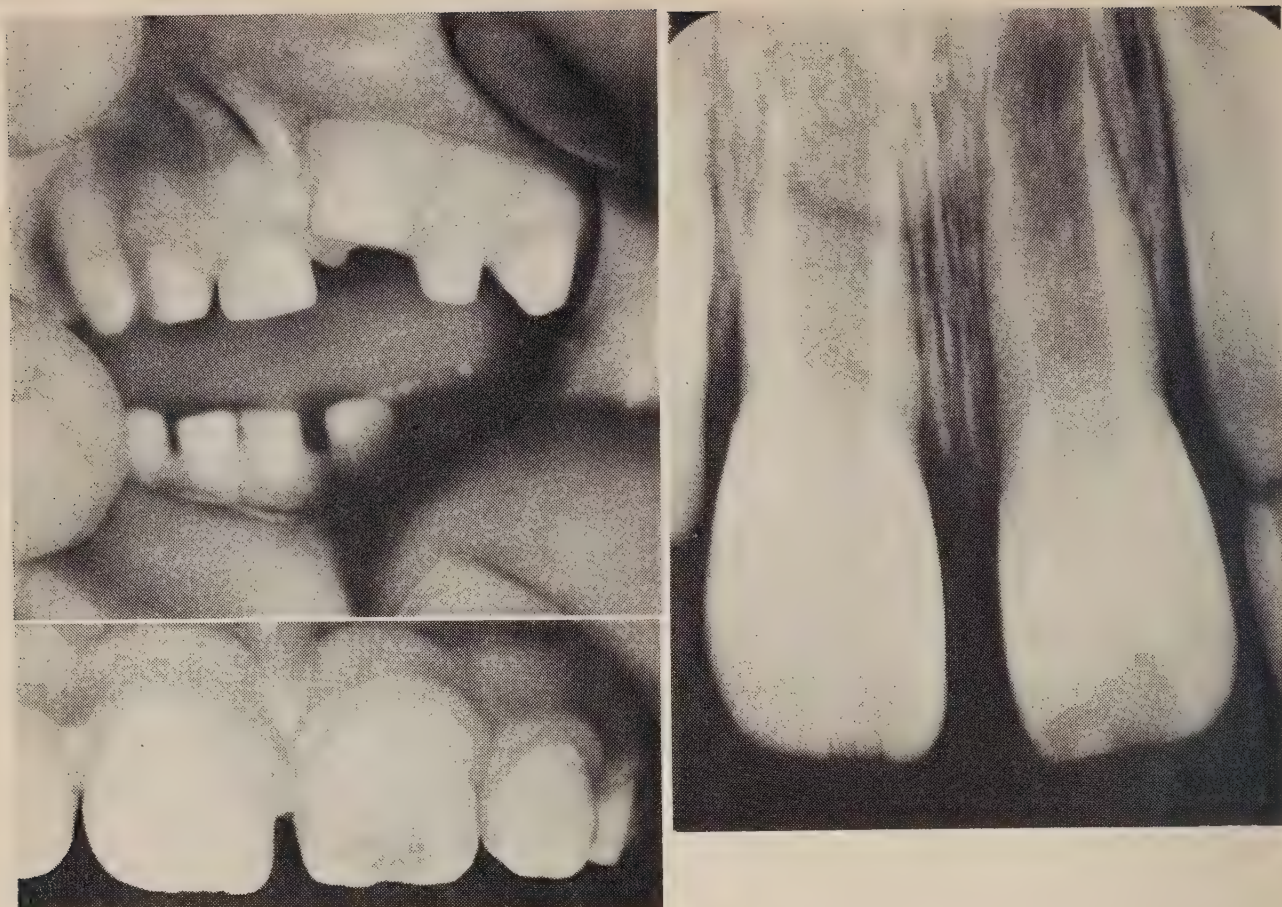


FIGURE 2 Accidental intrusion of a deciduous incisor. Above left: the upper left deciduous central incisor was allowed to remain and permitted to erupt again. Right: radiograph shows a radiolucent area in the upper left permanent central incisor. Such defects can be detected radiographically before the tooth erupts. Below left: the disfigured hypoplastic permanent tooth. Only the enamel and outer layer of dentine are affected.

has elapsed since the accident occurred, whether and how much the deciduous teeth are intruded, whether these teeth are labially displaced, whether the alveolar process is fractured, whether the injured teeth are blue-black or dark yellow, and whether any swelling or sinus is present.

Most accidents affecting deciduous teeth occur when the child first learns to walk. The majority of these mishaps involve maxillary incisors. They occur during automobile accidents or when the child falls downstairs or slips in a bathtub. If these teeth are intruded they can seriously damage the developing young permanent teeth (Figure 1). Mandibular incisors may be injured when a child falls in a play-pen while holding a toy in the mouth. These teeth are then usually dislodged from the socket and often cannot be found. The child's lungs should therefore be radiographically examined in case the teeth may have been aspirated.

If the accident is immediately reported

and the teeth are not dislodged, but there is slight bleeding and bruising around the gingiva and slight mobility, the parents are advised to give the child a soft diet and to report any change in the colour of the teeth. In very young children injured teeth recover more readily because the wide apical foramen enhances the vascular supply to the pulp. If a tooth turns black, however, it should be removed forthwith.

Intruded deciduous anterior teeth should likewise be removed at the earliest opportunity to minimize possible damage to the permanent successors (Figures 2-4). The deciduous central incisor illustrated in Figure 2 was intruded and then allowed to erupt again. Its root lay in soft cancellous bone labial to and approximating the soft balloon-like follicle of the permanent incisor. The enamel and dentine of this permanent successor are defective, whereas only the outer enamel layer has been affected in the permanent incisor depicted in Figure 3.

what significance does the black color of deciduous tooth have?



FIGURE 3 Left: radiolucent area near the incisal edge of an upper right permanent central incisor. Right: the enamel, though pitted, is well calcified and highly polished. This slight defect does not require a restoration. The child had previously suffered an accident shortly after the deciduous central incisors erupted. The right incisor was slightly displaced labially, but "the lip seemed to push it back in a few days" and the mother did not consult a dentist. The deciduous tooth retained its natural colour and was shed normally. The initial blow sustained by the deciduous incisor could have injured the outer enamel layer of the permanent successor.

Figure 5 shows an upper right deciduous central incisor with an active sinus. The tooth was blue-black. The mesial incisal corner broke off when the child was at the play-pen stage. The parents sought professional advice when the tooth subsequently darkened but no treatment was recommended. The permanent successor has hypoplastic enamel and dentine. This defect probably resulted from the preceding trauma and infection.

A deciduous tooth sometimes turns brownish-yellow after an accident. According to Bennett,² this is caused by the deposition of calcific material in the root canal and eventual obliteration of the pulp chamber. He claims that sepsis is



FIGURE 4 Radiolucent area near the incisal edge of an unerupted upper left permanent central incisor. The deciduous predecessor was extracted when it began to turn black.



FIGURE 5 Left: blue-black upper right deciduous central incisor with a discharging sinus. The mesial incisal corner has been broken off. Right: the upper right permanent central incisor in the same child has hypoplastic enamel and dentine.



FIGURE 6 Radiograph shows obliterated pulp chamber of an upper right deciduous central incisor. The tooth was dark yellow. Root resorption in this tooth was more advanced than in the left incisor, but clinical examination revealed no mobility.

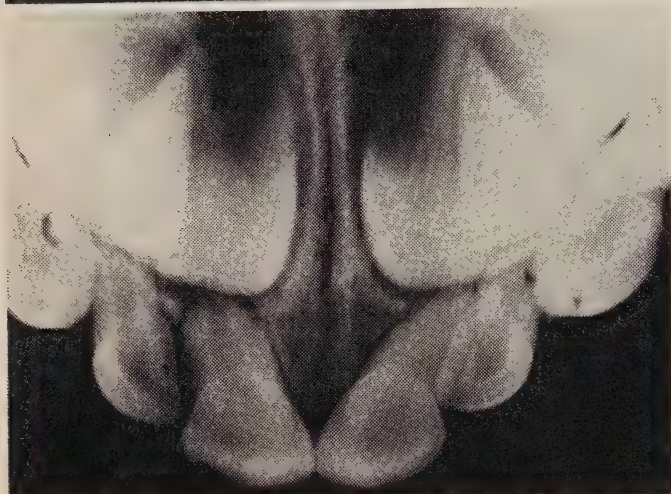


FIGURE 7 Left: radiograph shows advanced root resorption in an upper right deciduous central incisor. The tooth sustained a blow shortly after eruption but retained its natural colour and was shed normally. The permanent successor appears normal in this radiograph. Right: an area of hypocalcification, visible as a white patch, is present in the upper right permanent incisor. Such hypocalcification may not be evident in a pre-eruption radiograph.

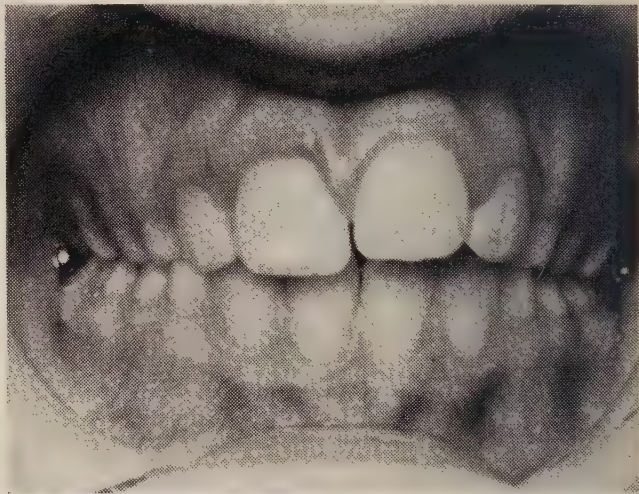
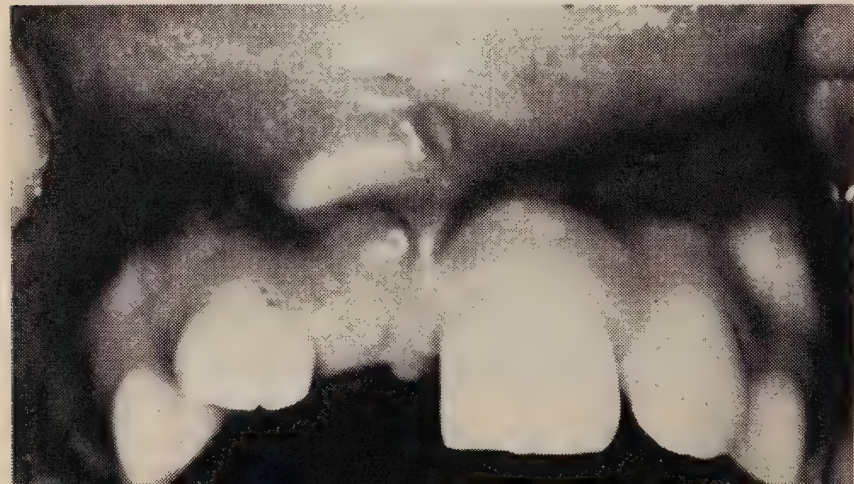


FIGURE 9 Left: unerupted upper right permanent central incisor lying high in the alveolar process. The tooth is trying to erupt through the mucous membrane of the upper lip. Right: radiograph shows the crown of this tooth almost at a right angle to the root. The deciduous predecessor was intruded during infancy and subsequently had to be extracted.



FIGURE 8 This intruded deciduous tooth was neglected until the patient was seen in hospital. The tooth and the labial growth were subsequently removed.



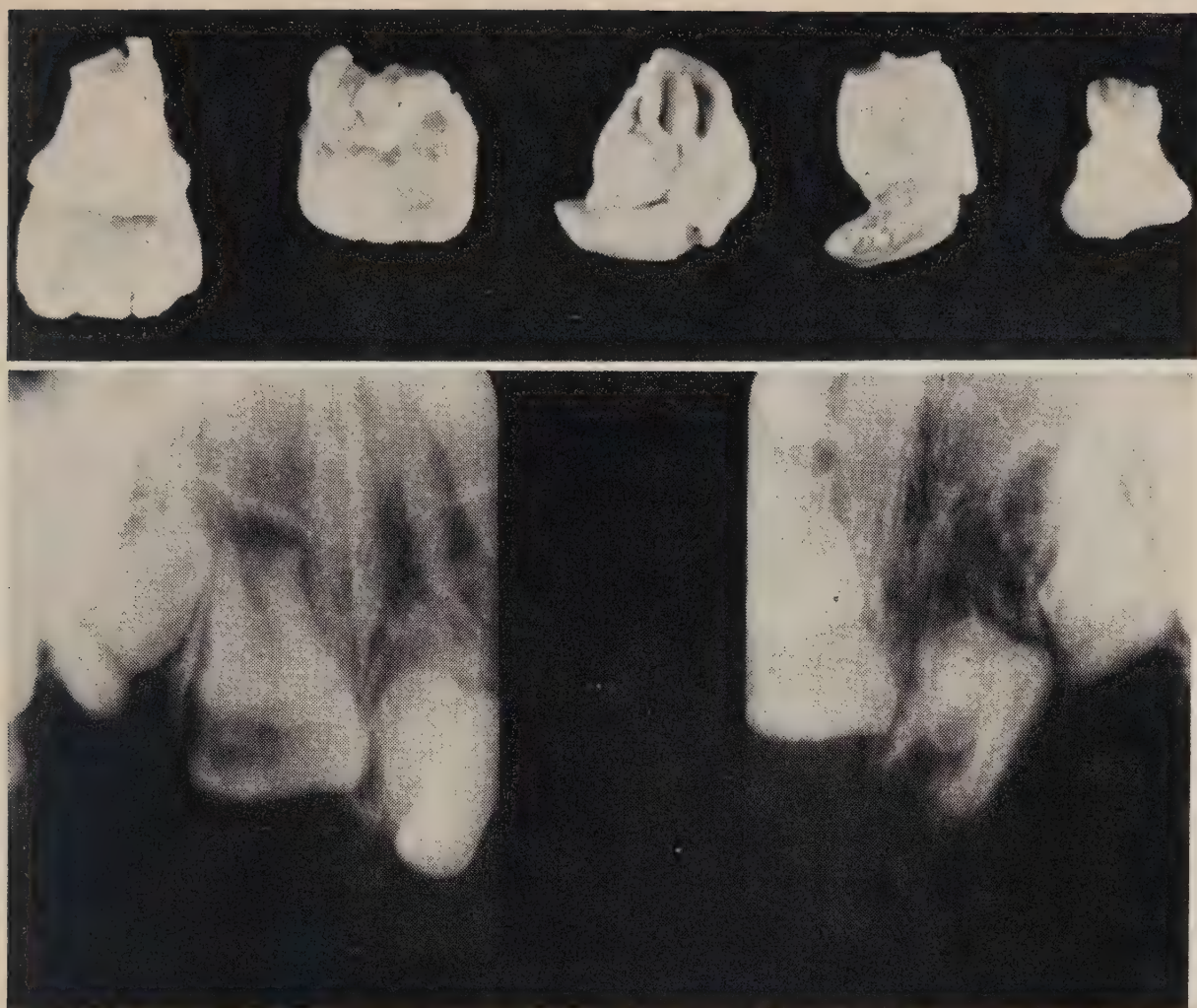


FIGURE 10 Above: dilacerated upper permanent incisors from a child who was thrown from an automobile at 14 months of age. The upper deciduous incisors were driven apically and had to be extracted when they erupted again. The four permanent incisors and a cuspid were subsequently enucleated. Below: radiographs of the deformed permanent teeth.

rare under these circumstances and that normal resorption usually eventuates. I customarily leave these teeth in the mouth and have never observed disfigurement of the permanent successors (Figure 6). Similar changes have been noted in the permanent dentition; such teeth can remain in the mouth for years without causing any untoward effects.

A deciduous incisor may sometimes sustain a blow without any visible repercussion other than advanced root resorption. The permanent successor may later exhibit hypocalcification, but this defect may not be evident in pre-eruption radiographs (Figure 7). The dentist should therefore refrain from predicting whether or not such permanent teeth will be disfigured. This fact is important when a dentist is asked to sign an insurance release.

Figure 8 shows an intruded deciduous tooth. The ensuing infection was neglect-

ed until the child was seen in hospital. By then a large growth had developed in the labial fold. The tooth and the growth were removed. The latter was not malignant.

Intruded teeth that are allowed to erupt again may be responsible for dilaceration of the permanent incisors (Figure 9). Figure 10 shows dilacerated upper permanent incisors from a child who was thrown from an automobile at 14 months of age. The deciduous predecessors were driven apically and had to be extracted when they erupted again. Subsequently the dilacerated permanent incisors and a cuspid had to be enucleated. This case illustrates very forcibly the need for observing caution before signing an insurance release following accidental injuries to the deciduous teeth. The dentist should not sign such a release unless he is convinced that the permanent teeth have not been damaged; otherwise parents may

NORMAL RELATIONSHIP



FIGURE 11 Sagittal section through the maxilla of a child of approximately 1½ years of age. The diagram illustrates the relationship between the erupted deciduous incisor and its permanent successor. At this stage the root of the deciduous incisor is positioned within a well established alveolar process. The developing crown of the permanent incisor is located lingually and apically in a separate follicle and crypt. The deposition of enamel and dentine of the permanent crown has made substantial progress. The circled area represents the erupted permanent incisor and illustrates the structure of the crown when maturation is complete.

later be saddled with further treatment costs which are not rightfully theirs.

MECHANISM OF DAMAGE TO PERMANENT TEETH

Many authors have explained how injuries to deciduous teeth can damage developing permanent successors, but none have so far based their interpretations on histological evidence. Dale and Dale now offer such an explanation (Figures 11-14) which they base on Crabb and Darling's recent work on enamel mineralization.⁵

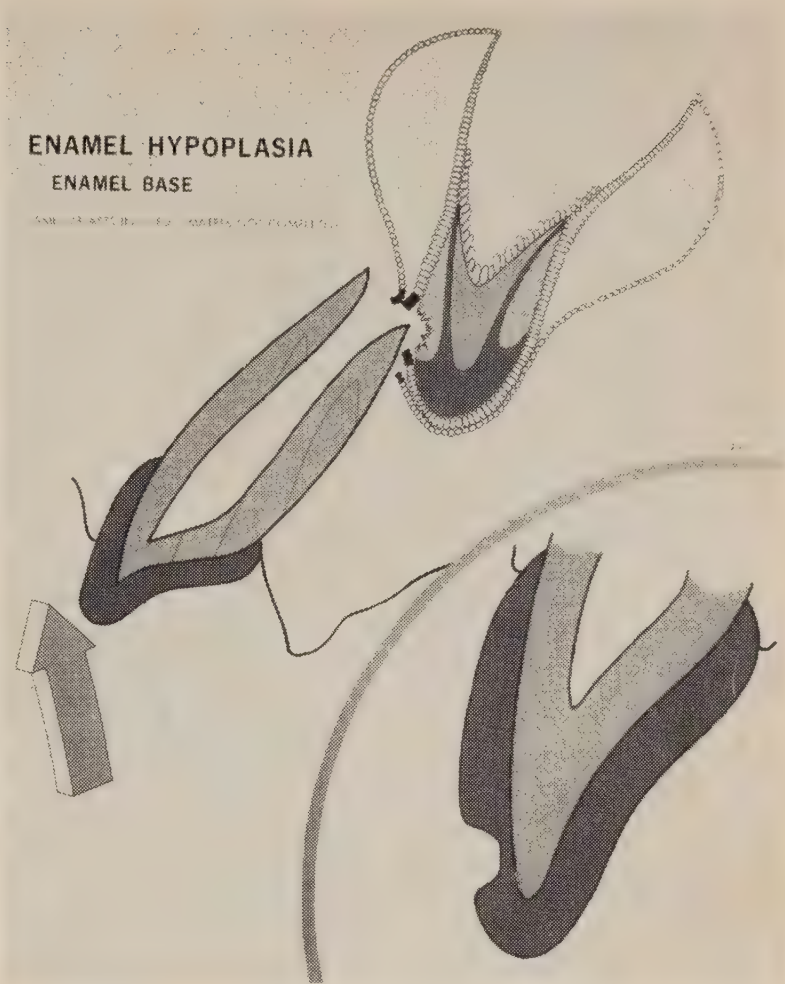
Figure 12 illustrates a deciduous incisor following an injury which caused apical and labial displacement of the crown of this tooth. The root apex of the deciduous tooth has traumatized tissue in the vicinity of the permanent tooth follicle and injured a relatively few ameloblasts on the labial surface of the developing permanent tooth. Elsewhere enamel matrix formation and calcification proceed normally. The injury has occurred before the

matrix was fully completed and therefore distorts the shape of the permanent crown. Enamel previously calcified at the enamel-dentine junction is unaffected. The net result is a hypoplastic lesion with an enamel base.

Figure 13 illustrates a severe injury where the crown of a deciduous incisor is displaced apically and lingually. The root apex of the deciduous tooth has caused extensive trauma in the vicinity of the permanent tooth follicle with consequent inflammation and injury to a relatively large number of ameloblasts on the labial surface of the developing tooth. Beyond this area matrix formation and calcification proceed normally. The injury has occurred before the initiation of matrix formation and therefore distorts the form of the permanent crown. The net result is an extensive hypoplastic lesion penetrating to the dentine.

Figure 14 illustrates apical displacement of a deciduous tooth in a 2½ year old child. The root of this tooth has traumatized tissue in the vicinity of the

FIGURE 12 Diagrammatic representation of a sagittal section through the maxilla illustrating the relationship between the deciduous incisor and its permanent successor following an injury which has displaced the deciduous crown in an apical and labial direction. The apex of the deciduous root has traumatized the tissue in the vicinity of the permanent follicle causing inflammation and injury to a relatively small number of ameloblasts on the labial surface of the developing tooth. The root of the deciduous tooth may or may not physically disrupt the follicle as illustrated in the diagram. Ameloblasts continue to function beyond the affected area so that matrix formation proceeds and calcification follows. The accident has occurred prior to the completion of matrix formation and has interfered with this process, causing distortion of form of the permanent crown. The substantial thickness of enamel matrix calcified at the dentine enamel junction prior to the injury is not affected by the trauma. The result is a hypoplastic lesion with an enamel base as illustrated in the circled area.



ENAMEL HYPOPLASIA
DENTIN BASE

AMELOBLASTS INJURED: MATRIX NOT INITIATED



FIGURE 13 Diagrammatic representation of a sagittal section through the maxilla illustrating the relationship between the deciduous incisor and its permanent successor following severe injury which has displaced the deciduous crown in an apical and lingual direction. The apex of the deciduous root has extensively traumatized the tissue in the vicinity of the permanent follicle causing inflammation and injury to a relatively large number of ameloblasts on the labial surface of the developing tooth. The root of the deciduous tooth may or may not physically disrupt the follicle as illustrated in the diagram. Ameloblasts continue to function beyond the traumatized area so that matrix formation proceeds and calcification follows. The accident has occurred prior to the initiation of matrix formation and has caused distortion of form of the permanent crown and an extensive hypoplastic lesion penetrating to the dentine as illustrated in the circled area.

ENAMEL HYPOCALCIFICATION

AMELOBLASTS INJURED MATRIX COMPLETE



FIGURE 14 Sagittal section through the maxilla of a child of approximately 2½ years of age. The diagram illustrates the relationship between the deciduous incisor and its permanent successor following an injury which has displaced the deciduous tooth in an apical direction. The deciduous root has traumatized the tissue in the vicinity of the permanent follicle causing inflammation and injury to a number of ameloblasts on the labial surface of the developing tooth. The matrix of this tooth has sustained no physical trauma since its formation is complete. The injury interferes only with subsequent calcification. This results in a permanent incisor of normal form but with a localized area of hypocalcification as illustrated in the circled area.

permanent follicle with consequent inflammation and injury to a number of ameloblasts on the labial surface of the developing tooth. The crown of this tooth, already fully formed, is not distorted. The injury interferes only with calcification. The net result is a localized area of hypocalcification.

SUMMARY

1. Most authors agree that trauma or infection resulting from injury to the deciduous anterior teeth may damage the permanent successors.

2. The greater the severity of the accident and the younger the child, the greater the possibility of disfigurement of the permanent successors.

3. Permanent incisors may display four types of resultant defects: hypoplasia affecting only the outer enamel layer, hypoplasia affecting enamel and dentine, hypocalcification, and dilaceration.

4. The colour of the injured tooth is important. A tooth which turns black is

indicative of a dying pulp. Subsequent infection may complicate the injury. A brownish-yellow tooth is indicative of partial or complete calcific obliteration of the pulp chamber. Such teeth are rarely infected and can usually be left safely in place.

5. Anterior deciduous teeth which are dislodged from their normal position or infected should be promptly removed to minimize possible injury to the developing permanent teeth.

The author expresses appreciation to Dr. J. G. Dale who prepared the illustrations in Figures 11-14.

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Strength properties of a conventional and a spherical particulate amalgam alloy

Compressive strength, punch shear strength and hardness of amalgam made with conventional and spherical particle alloys were compared. The spherical alloy possessed greater initial strength which subsequently diminished to a level equal to, or less than, that of the conventional alloy. The spherical alloy produced significantly softer edges under conditions of minimal condensation. A dispenser-mixer produced alloy specimens with strengths similar to those of alloys whose constituents were weighed on a balance.

On a comparé la résistance à la compression, la résistance à la perforation en ciseau et la dureté de l'amalgame fabriqué avec des alliages particulaires, classiques et sphériques. L'alliage sphérique présente une plus grande résistance initiale, qui tombe par la suite à un niveau égal ou inférieur à celui de l'alliage classique. L'alliage sphérique donne des bords plus mous, dans des conditions de condensation minimale. Un distributeur-mélangeur a produit des échantillons d'alliage d'une résistance semblable à celle des alliages dont les composants avaient été pesés sur une balance.

The use of spherical particles in alloys of silver amalgam is said to improve the physical properties. Properties as good as, or better than, those of alloys currently in use are claimed.¹⁻⁵ Improved handling is also ascribed to a dispenser-mixer which ejects measured amounts of alloy filings and mercury into a moving capsule. Some strength properties of a conventional and of a spherical alloy were therefore measured to test these claims. The accuracy of a dispenser-mixer was also measured.

MATERIALS AND METHODS

Three tests were used. The compressive strength, shear punch strength and hardness of the spherical particulate alloy and

the conventional alloys were determined at two mercury-alloy ratios.

The spherical alloy (Spheralloy, Kerr Manufacturing Company, called Alloy A) is dispensed into a capsule designed for dental amalgamators. By pressing a slide, a tablet is released, and a measured amount of mercury drops out simultaneously. The percentage of mercury is adjustable.

The conventional alloy (True Dentalloy, S. S. White Manufacturing Company of Canada, called Alloy B) was used in the dispenser-mixer (Dentomat). For comparison, quantities of Alloy B and mercury were also weighed on a balance (accuracy ± 0.05 Gm.). The dispenser-mixer deposits measured amounts of alloy and mercury into a chute which leads to a hollow handle. Centrifugal force drives

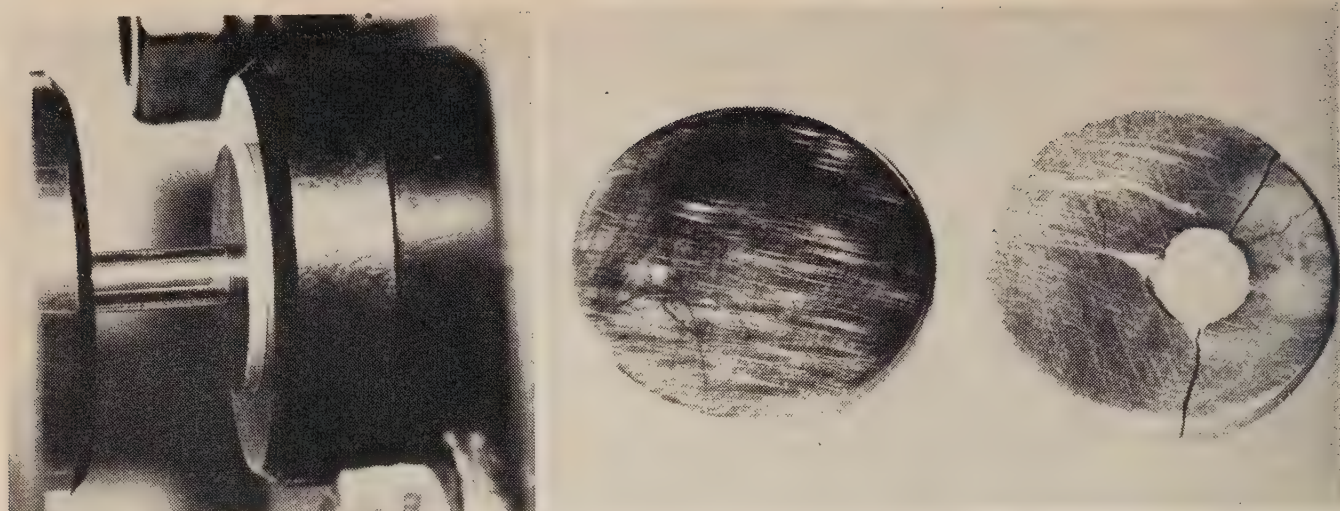


FIGURE 1 Punch shear test. Left: the punch exerts force on the amalgam disc held against a counter die. It presses a cylindrical piece out of the disc into a hole in the counter die. The hole has a slightly greater dimension than the punch. Right: amalgam discs before and after the test. The exit side is shown in the punched specimen.

the alloy and mercury into the rapidly vibrating handle. When the timed agitation ceases, the handle is unscrewed and the mixed alloy is tapped out.

The dispensing devices were tested by weighing their output and by comparing the results of physical tests.

Alloy A was used in two ratios, one with 50 per cent mercury and the other with 45 per cent mercury. These were dispensed as three or four tablets with the appropriate quantity of mercury and agitated on a dental amalgamator for 30 seconds. The dispenser-mixer containing Alloy B was set for a dry mix, and six or 10 semi-rotations of the loading lever were used for mixes agitated for 30 seconds.

Specimens for physical testing were prepared and tested as follows:

Compressive Test: Cylinders 6.2 mm. in diameter, 12.0 mm. high, were condensed in a stainless steel mould using a plunger about 4 mm. in diameter and a force of 1½-2 Kg. (5 lb.). The cylinders were formed from three to four increments of material. Mercury-rich alloy rose between plunger and cylinder wall and was removed. These cylinders were crushed in a Hounsfield Tensometer at a strain rate of 0.15 cm. per minute (0.06 ins.) using a 2,000 Kg. load plate.

Punch Shear Test: Discs of silver amalgam about 1 mm. thick, 12 mm. in diameter, were prepared in a Lucite mould. A cylindrical mould with closely fitting

plunger was filled with alloy mix and the plunger was tapped to condense or form the mix into a disc. A steel punch with a flat end (diameter 0.32 cm.) was forced through the disc held in the compression cage of a Hounsfield Tensometer (Figure 1). The rate of strain was 0.15 cm. per minute. Specimens were tested at one hour with a 62½ Kg. load plate, and at 24 hours and seven days with a 250 Kg. plate. An average punch shear stress^{6,7} was calculated from the load at failure divided by the circular area of the punched-out cylinder.

Hardness Test: Mixes of Alloys A and B with the same mercury-alloy ratio were pressed into cylindrical holes 10 mm. in diameter in a Lucite block. Condensation was minimal. A glass slide was used to compress the mass. The surfaces were polished after 24 hours. A Knoop indenter on a Kentron tester with loads of 1,000 and 500 Gm. was pressed into the surface of the alloys (Figure 2). Three specimens (50 per cent mercury) were tested by indentations at the edges and at the centre.

The mercury-alloy ratios of set specimens varied throughout these tests. The ratios stated are the proportions used for mixing. There was consequently some loss of precision during the interval between mixing and reporting. However, the fluctuations of the mercury-alloy ratio in set specimens resemble clinical conditions. Moreover, the statistical treat-

ment in the analysis of variance takes into account random fluctuations from all manner of procedures of preparation, measurement, testing, and so forth.

The values obtained in these tests were analysed using analysis of variance. Differences noted in this paper arose from the presence of statistically significant 'F' ratios at 1 per cent or 5 per cent levels of significance. Confidence limits and least significant differences between means were calculated using the residual mean square with appropriate degrees of freedom.

RESULTS

Dispenser: Ten trials of sets of four tablets showed that a variation of 0.01 Gm. in a 1.20 Gm. weight could occur. The mercury released for such a four tablet mix was 1.19 Gm. (range 0.01 Gm.) when the dial was set at 50 per cent mercury. The error in dispensing could therefore be about 1 per cent. The dispenser-mixer was more erratic. A 10 semi-rotation load gave an average of 2.90 Gm. ($n=10$ s.d. 0.03 Gm.) of alloy and mercury. Mercury dispensing yielded similar variations. The possible extremes of mercury percentage in mixes ranged from 49 to 55 per cent. The particles of conventional alloy were 'regular-cut;' experience has shown that 'fine-cut' particles are dispensed so erratically in some models that the mixes vary from very dry and unusable to very wet.

Compressive Strength: At one hour the spherical Alloy A had twice the compressive strength of the conventional Alloy B (Table 1). After 24 hours and seven days the conventional Alloy B was about one-third stronger. There was no difference in compressive strength between specimens of Alloy B from the dispenser-mixer and specimens where the mercury and alloy were weighed and triturated in a dental amalgamator. The percentages of mercury used in the preparation of both alloys were similar (Table 1). The ease of packing of the spherical alloy may mean that Alloy A had a lower percentage of mercury as mercury-rich material was more abundant during the condensation of the cylinders. Three cylinders at a 45 per

cent content of mercury were prepared for the spherical alloy and gave a mean value of 3,640 Kg. per sq. cm. at 24 hours.

Punch Shear Strength: The relationship shown in the compressive tests was duplicated in the punch shear strength values (Table 1). The conventional alloy was significantly superior after 24 hours when similar mercury-alloy proportions were mixed. Alloy B measured on the balance also had a significantly greater punch shear strength at seven days. The punch shear strength of Alloy A at 45 per cent mercury was 1,150 Kg. per sq. cm. (five specimens); this differs significantly from the 50 per cent Alloy A but not from Alloy B in either style of mixture.

Hardness: The Knoop hardness numbers for both alloys (same mercury-alloy

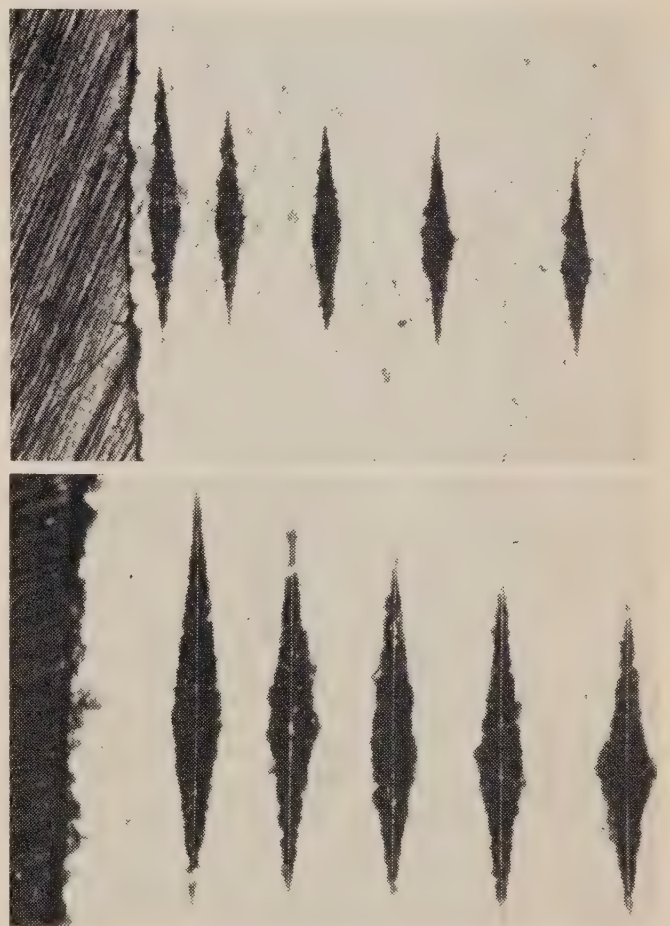


FIGURE 2 Pyramidal indentations from a Knoop indenter. Each picture shows a dark band of mould material to the left of the lighter coloured amalgam. Indentations in the upper picture, made with a load of 1,000 Gm. are 0.012 mm. apart and about 0.4 mm. (400 microns) long. The specimen is three days old. Indentations in the lower picture are smaller (0.2 mm [200 microns]) and are 0.008 mm. apart. This specimen (Alloy B) has been mixed for 12 days. Softer areas at the edge of each specimen show larger indentations.

TABLE 1 Compressive and punch shear strengths of amalgam prepared from conventional and spherical particulate alloys. The specimens are compared at three time intervals after mix in compression and shear modes.

Time	Alloy A dispensed		Alloy B dispensed		Alloy B measured	
	Kg./cm. ²	No. of specimens	Kg./cm. ²	No. of specimens	Kg./cm. ²	No. of specimens
Compressive strength						
1 hour	1,420 **	3*	790 **	3	820 **	3
24 hours	2,580 *	6**	3,190	6	3,050	3
7 days	3,150	3	3,507	3	3,400	3
Shear strength						
1 hour	332 *	10	145 **	10	137 **	3
24 hours	750	15*	940	15	1,030	3
7 days	666	3	763	3	916	5

Asterisks between columns and rows show a significant difference between adjacent means; * 5 per cent level of significance, ** 1 per cent level of significance.

ratio at mixing) are given with 5 per cent levels of significance in Table 2. The edge measurements were made about 100 microns from the edge. The central locations have a similar KHN but the edge of the spherical alloy is softer (Figure 2).

DISCUSSION

Mixing Systems. — The dispenser-mixer lacks the precision desired in investigational work. This does not noticeably affect the strength of materials produced even though the chute and capsule-handle become contaminated with adherent amalgam. The level of the reservoirs of alloy and mercury also seems to affect the amounts dispensed; accuracy is best maintained by well filled reservoirs. The

spherical alloy dispenser may produce erratic mixes if the slide chips or cracks pellets; this happens quite frequently and results in mercury-rich mixes.

Compressive and Punch Shear Test. — The spherical alloy is stronger than conventional alloys after one hour; this advantage is lost at 24 hours and subsequently. Similar results in transverse strength tests are reported by Boyer et al.⁸ The punch shear test shows that the strength apparently decreases after 24 hours. The significance of this finding is not clear. The punch shear test is relatively new for dental restorative materials and its parameters are under investigation.⁹ The validity of such a test has yet to be established.

Mahler and Mitchem¹⁰ found the compressive test of Alloy B produced values similar to those in Table 1 (45,000-48,000 psi at comparable rates of loading). Alloy A (from Table 1) at 24 hours had a strength of 35,500 psi and Alloy B 45,300 psi.

The clinical significance of these findings is not clear. The quoting of compressive strength as a significant clinical factor is highly dubious. The fracture of amalgam was clearly shown by Nadal, Phillips and Swartz¹¹ to be a function of occlusion rather than strength; amalgam

TABLE 2 Hardness of amalgam prepared from conventional and spherical particulate alloys. The mercury alloy ratio was 1:1. The specimens were tested at two sites. Knoop hardness numbers (means of 9) are shown with 95 per cent confidence limits.

Test site	Alloy A	Alloy B
Centre	100 (98-102)	101 (99-104)
Edge	73 (72-75)	87 (85-89)

with a strength of 13,000 psi or 900 Kg. per sq. cm. did not fracture.

Hardness Test. — The test showed that the edges of amalgam restorations are likely to be softer than the centres. The so-called low edge strength of amalgam is a property of the periphery rather than a deficiency in tensile, compressive or punch shear strengths. Condensation presumably plays an important part in establishing edge strength but this postulate requires further examination. Whatever the significance, the spherical alloy is weaker at four days; a check at 12 days shows no change in value.

Observations. — The unset spherical alloy is more fluid than the conventional alloy at similar mercury percentages. Spherical alloy mixes are difficult to condense at a 1:1 ratio. A lower mercury percentage could therefore be used. Strength increases as the mercury percentage is lowered but we do not know whether shrinkage, tarnish or flow would increase or decrease.

While the claim for higher initial strength with spherical rather than conventional alloys is borne out, the difference may not be clinically significant. Failures due to fracture within 24 hours of insertion of amalgam fillings are probably more closely related to clinical techniques than to materials used. Moreover, the two types of alloy differ considerably in cost.

CONCLUSIONS

The dispenser-mixer produced alloy specimens with strengths similar to those of alloys whose constituents were weighed on a balance. A range of mercury percentage of 49 to 55 can be expected in mixes. The dispenser with the spherical alloy was accurate to ± 0.01 Gm.

The compressive and punch shear strengths of spherical alloys were higher than those of a conventional alloy after one hour; both alloys contained 50 per cent mercury when mixed. At 24 hours after

mixing the conventional alloy was significantly stronger in compression and shear than the spherical alloy. At seven days the punch shear strength of one set of conventional alloy specimens (constituents measured to a 1:1 ratio on a balance) was greater than that of the spherical alloy.

A comparison of alloys and centres and edges using a Knoop Hardness Test showed that the spherical alloy produced significantly softer edges under conditions of minimal condensation.

Some increase in early strength of an alloy with spherical particles was detected, but its strength thereafter was similar to, or less than, that of a conventional alloy. The various differences in strength are not known to be significant in clinical treatment.

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The author expresses appreciation to L. L. Roydhouse and A. Maclean for assistance with this investigation.

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Denture needs of a group of Toronto aged

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A group of 491 people aged 55-99 were dentally examined on admission to an institution for the aged. More than half required lower dentures to replace existing unsatisfactory appliances or because they had none. The accumulated need for dentures amounted to one denture per person. The incremental need for new dentures was less, with 5-6 per cent of the group requiring new appliances each year.

On a examiné les dents d'un groupe de 491 personnes âgées de 55 à 99 ans, lors de leur admission dans une institution pour les vieillards. Plus de la moitié avait besoin de prothèses du bas pour remplacer des appareils défectueux ou parce qu'ils n'en avaient pas. La moyenne s'est établie à une unité par personne. Les besoins en nouveaux appareils représentaient un pourcentage moyen plus faible et l'on a estimé que 5 ou 6 pour cent des personnes du groupe devraient avoir, chaque année, de nouvelles prothèses.

Geriatric dentistry has gained importance over the last few decades because general health measures have raised the average life expectancy of the population. Older persons are showing more interest in dental care; yet we do not know enough about their treatment requirements in this country. The dental profession has declared its interest in studies designed to clarify the situation.¹ Accordingly, we conducted this investigation in order to define the denture needs of a group of residents in a home for the aged in Toronto, Ontario.

SOURCE OF DATA

Over a period of six years, 1960 to 1966, 491 individuals entering the Jewish Home for the Aged were examined by the dental staff. The only exceptions were individuals physically unable to attend the dental clinic. All others, including those in varying degrees of senility, were seen. The dental examinations were performed at the time of admission. The consequent data therefore reflect the oral status of these people as they lived in the commu-

TABLE 1 Comparison of edentulous arches in 491 Toronto persons aged 50-99 and in the United States population² aged 45-79.

Age	Toronto						Age	United States		
	Neither arch edentulous		One arch edentulous		Two arches edentulous			Neither arch edentulous	One arch edentulous	Two arches edentulous
	N	%	N	%	N	%		%	%	%
							45-54	66.6	12.2	21.2
50-59	9	37.3	4	16.7	11	46.0	55-64	46.3	15.8	37.9
60-69	10	15.2	14	21.2	42	63.6	65-74	33.6	17.2	49.2
70-79	20	9.3	15	6.9	181	83.8	75-79	20.1	17.2	62.7
80-89	11	7.0	12	7.6	135	85.4				
90-99	2	7.4	6	22.2	19	70.4				

TABLE 2 Distribution of 491 Toronto persons according to age and condition of the arches.

Age	Subjects	Edentulous maxilla only		Edentulous mandible only		Both arches edentulous		Neither arch edentulous	
		N	%	N	%	N	%	N	%
50-59	24	4	16.7	0		11	46.0	9	37.3
60-69	66	13	19.7	1	1.5	42	63.6	10	15.2
70-79	216	13	6.2	2	0.9	181	83.6	20	9.3
80-89	158	9	5.7	3	1.9	135	85.4	11	7.0
90-99	27	4	14.8	2	7.4	19	70.4	2	7.4
Total	491	43	8.8	8	1.6	388	79.0	52	10.6

TABLE 3 Denture status of edentulous individuals among 491 Toronto persons aged 50-99.

Age	Maxillary arch								Mandibular arch							
	No denture		Poor denture		Fair denture		Good denture		No denture		Poor denture		Fair denture		Good denture	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
50-59	8	38.1	2	9.5	3	14.3	8	38.1	8	40.0	2	10.0	2	10.0	8	40.0
60-69	16	25.4	5	7.9	13	20.6	29	46.1	17	30.9	3	5.5	10	18.2	25	45.4
70-79	30	15.2	13	6.6	73	36.9	82	41.3	33	17.5	14	7.5	63	33.5	78	41.5
80-89	25	17.4	16	11.1	48	33.3	55	38.2	24	17.0	16	11.4	48	11.4	53	37.6
90-99	7	28.0	2	8.0	3	12.0	13	52.0	8	36.4	1	4.5	2	9.1	11	50.0
Total	86	19.1	38	8.4	140	31.0	187	41.4	90	21.1	36	8.4	125	29.4	175	41.1

TABLE 4 Backlog of denture needs in 491 Toronto dentulous and edentulous subjects.

Age	Subjects	Percentage who are edentulous and who do not have good dentures		Percentage who have 6 or less teeth in one or both arches, but do not have good dentures		Total percentage of subjects needing dentures		Average dentures needed per person
		1. Maxilla	2. Mandible	3. Maxilla	4. Mandible	5. Maxilla	6. Mandible	
50-59	24	37.5	28.4	14.5	16.7	52.0	45.1	1.0
60-69	66	45.5	35.1	6.0	13.7	51.5	48.8	1.0
70-79	216	51.5	48.8	7.2	5.7	58.7	54.5	1.1
80-89	158	55.8	53.0	6.6	7.9	62.4	60.9	1.2
90-99	27	30.9	37.3	14.9	18.6	45.8	55.9	1.0

nity. This is highly important because the dental condition of institutional residents commonly reflects the treatment policy of the agency concerned. Only examinations performed at the time of admission can indicate conditions in the population at large.

It is impossible to say if the dental sta-

tus of the particular ethnic group here described is representative of the rest of the population. The data nevertheless illustrate the extent of the problem which the profession may have to consider. For the individuals concerned, the average length of residence in Canada was 48 years. Over 95 per cent were of east Eu-

TABLE 5 Percentage distribution of 491 Toronto persons according to the number of teeth present in the maxilla and mandible.

Age	Subjects	Maxillary teeth				Mandible teeth			
		0	1-6	7-12	12+	0	1-6	7-12	12+
50-59	24	62.5	14.5	20.8	4.2	45.8	16.7	29.2	8.3
60-69	66	83.3	6.0	10.7		65.1	13.7	19.7	1.5
70-79	216	88.1	7.2	4.2	0.5	83.1	5.7	10.2	1.0
80-89	158	89.4	6.6	3.3	0.7	85.7	7.9	6.4	
90-99	27	85.1	14.9			77.7	18.6	3.7	

TABLE 6 Age of dentures in edentulous individuals among 491 Toronto persons aged 50-99.

Age	Arch	No denture		Years in service					
				0-4		5-9		10 and over	
		N	%	N	%	N	%	N	%
50-59	Maxillary	8	34.8	7	30.4	4	17.4	4	17.4
	Mandibular	8	36.4	7	31.6	4	18.4	3	13.6
60-69	Maxillary	16	32.7	4	8.2	3	6.1	26	53.0
	Mandibular	17	32.2	7	13.2	7	13.2	22	41.6
70-79	Maxillary	30	15.9	34	18.1	23	12.2	101	53.8
	Mandibular	33	18.8	31	17.6	20	11.4	92	52.2
80-89	Maxillary	25	11.9	19	13.6	17	12.1	79	56.4
	Mandibular	24	17.7	20	14.7	16	11.8	76	55.8
90-99	Maxillary	7	27.0	1	3.8	3	11.5	15	57.7
	Mandibular	8	34.8			3	13.0	12	52.2

TABLE 7 Annual new denture needs due to tooth loss.

Age interval	Ten year increases in per cent of population becoming edentulous or reduced to 6 teeth or less		Average yearly increments within the 10 year span	
	In maxillas	In mandibles	In maxilla	In mandible
	%	%		
44 — 54	+27.5	50.0	2.8	5.0
(50 — 59)			(2.0)	(3.3)
54 — 64	+12.3	16.3	1.2	1.6
(60 — 69)			(0.9)	(1.3)
64 — 74	+6.0	10.0	0.6	1.0
(70 — 79)			(0.2)	(0.7)
74 — 84	+0.7	4.8	0.1	0.5
(80 — 89)			(0.2)	(0.4)
84 — 94			0.4	0.3
(90 — 99)			(0.1)	(0.1)

() Values for these ages are extrapolations or interpolations.

ropean origin. Less than 5 per cent came from a high income group or from the professional stratum of society.

FINDINGS

Table 1 outlines age specific percentages of the Toronto group having edentulous arches, and compares these data with figures from the United States.² The Canadians are considerably worse than the Americans. A further analysis is given in Table 2 which shows that nearly 90 per cent of the Toronto group over 50 years of age have at least one edentulous arch.

Table 3 portrays the denture status of the individuals with edentulous arches. Only about 40 per cent had dentures which could be considered as good.

Table 4 presents the backlog of denture needs in dentulous and edentulous subjects. Columns 1 and 2 show the percentages of subjects who are edentulous and do not have good dentures. Columns 3 and 4 show the percentages of subjects who have six or less teeth but do not have good dentures. The total percentage of subjects needing dentures (columns 5

and 6) is obtained by combining columns 1 with 3 and 2 with 4. The individual denture needs exceed 1.0 for all age groups.

Table 5 gives the number of teeth present in the maxillary and mandibular arches. The number of teeth present tends to decrease with age.

Table 6 indicates the length of service of dentures. Some of the dentures included in Table 3 are omitted from Table 6 because some patients could not remember when they received their dentures. In the younger ages, the greater proportion has just acquired dentures or is still in need. In persons over 70, over half have poor dentures that are more than 10 years old.

Incremental denture needs arising from tooth loss, that is persons becoming newly edentulous or whose dentition has been reduced to six or less teeth per arch, may be roughly estimated as age differences in Table 5. These are consolidated in Table 7 where the last two columns suggest the yearly increments over 10 year time spans.

Denture replacement needs are much more difficult to estimate. Table 8 gives the condition of dentures (good, fair or

TABLE 8 Dentists' rating of service ability of dentures according to length of time denture has been in use.

Years of service	Maxillary dentures				Mandibular dentures			
	N	Per cent			N	Per cent		
		Poor	Fair	Good		Poor	Fair	Good
Under 1	13	0.0	0.0	100.0	11	0.0	0.0	100.0
1 - 1.9	14	0.0	14.3	85.7	16	12.5	6.2	81.3
2 - 2.9	18	11.1	22.2	66.7	17	11.7	11.7	76.6
3 - 3.9	11	9.1	36.6	54.3	11	0.0	36.6	63.4
4 - 4.9	9	11.1	66.7	22.2	10	0.0	80.0	20.0
5 - 9.9	50	0.0	30.0	70.0	50	4.0	30.0	66.0
10 - 14.9	64	4.7	36.0	59.3	43	6.9	37.2	55.9
15 - 19.9	63	9.5	50.8	39.7	70	10.0	40.0	50.0
20 - 24.9	51	15.6	49.0	35.4	48	10.4	52.0	37.6
25 - 29.9	19	26.3	36.8	36.8	18	22.2	33.3	44.5
30 - 39.9	24	8.3	66.7	25.1	22	13.6	63.6	22.8
40+	4	—	—	—	4	—	—	—
Total	340	8.9	37.9	53.2	320	9.0	36.8	54.2

TABLE 9 New dentures needed annually due to tooth loss and replacement of old appliances in 491 Toronto persons aged 50-99.

Age	Maxillary dentures				Mandibular dentures				Per cent of subjects needing a new denture
	Per cent of subjects wearing dentures	Replacements needed at 2.3 per cent of those in service	New dentures needed from tooth loss	Per cent of subjects needing denture	Per cent of subjects wearing dentures*	Replacements needed at 2.3 per cent of those in service*	New dentures needed from tooth loss	Per cent of subjects needing denture	
50-59	37.5	0.9	2.0	2.9	28.8	0.7	3.3	4.0	6.9
60-69	49.2	1.1	0.9	2.0	48.6	1.1	1.3	2.4	4.4
70-79	72.7	1.7	0.2	1.9	71.3	1.6	0.7	2.3	4.2
80-89	74.2	1.7	0.2	1.9	70.8	1.6	0.4	2.0	3.9
90-99	54.1	0.7	0.1	0.8	54.9	0.7	0.1	0.8	1.6

*Mandibular dentures are under-estimated because many persons who wear partial dentures are not edentulous.

poor) by length of service. Interestingly, over half of the dentures are classified as good even after 15 years of service. Only a rough depreciation can be estimated from these data; but it seems apparent that, over the 30 years sampled, about 70 per cent of the dentures can no longer be classified as good. This suggests an annual depreciation of 2.3 per cent of all dentures being worn.

Table 9 draws together the estimates for annual denture needs. The last column suggests the average number of new dentures annually needed by age groups. An approximation of 5 or 6 per cent may be of practical value in estimating incremental denture needs.

SUMMARY

Estimated needs for adult dental care were obtained from examinations of 491 older people upon entry into the Jewish Home for the Aged in Toronto. There was an accumulated need for dentures amounting to one denture per person on

average. More than half the subjects needed a mandibular denture either because they had none or because their present dentures were inadequate. The incremental need for new dentures was much less, with 5-6 per cent of this population requiring new appliances each year.

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The authors express appreciation to Dr. Reuben Brown, former head of the Jewish Home for the Aged section of the dental staff; also to Drs. G. Perlmutter, S. Spivak, S. Freedhoff, A. M. Schacht and S. Breslin who performed the examinations; also to Mrs. E. Negy and Miss G. Alman of the nursing staff of the Jewish Home for the Aged who assisted in the collection of these data.

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Prevention and treatment of dry socket

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L'alvéolite et son traitement

L'auteur décrit une entité clinique bien connue: l'alvéolite. Son étiologie est obscure et on l'explique plus souvent par des suppositions que par des faits dûment contrôlés. Sa prophylaxie est donc difficile. L'auteur préconise l'emploi de pansements d'eugénate comme traitement curatif. Le traitement prophylactique comprend une anamnèse soignée, un nettoyage et détartrage pré-chirurgical, une bonne technique chirurgicale et l'obtention d'un bon caillot sanguin en évitant d'introduire des médicaments dans l'alvéole.

Dry socket is more often attributed to suppositional causes than proven facts. This complicates the prevention of this lesion. The author advocates zinc oxide-eugenol dressings for the treatment of an established dry socket. Preventive measures include the taking of a thorough case history, pre-operative prophylaxis and scaling, careful surgical technique, and the formation of a blood clot. He counsels against introducing other medicaments into a dry socket.

La littérature au sujet de la prévention et du traitement des alvéolites est abondante. Le terme d'alvéolite est ici synonyme de ce que différents auteurs appellent "alvéolite sèche" (*dry socket* ou *painful socket* ou encore *dolor post extractionem*).

Cependant, après tant de travaux, tout n'a pas été dit à propos de l'alvéolite. Si l'on a plus ou moins éclairci la question de la pathogénie et de ses caractéristiques cliniques, il n'en est pas de même pour l'étiologie, et par conséquent la prophylaxie de l'alvéolite qui restent fort contestées. Dans le présent travail, nous avons tenté d'éclaircir d'un jour nouveau l'étiologie, la prophylaxie et surtout le

traitement de cette affection. Nous espérons pouvoir apporter certaines lumières sur ce sujet toujours d'actualité.

Avant d'entamer la partie essentielle de ce travail, nous allons rappeler, en bref, les caractères cliniques et la physiopathologie de l'alvéolite.

Généralement, le diagnostic de l'alvéolite peut être posé par l'absence de caillot sanguin et par les douleurs éprouvées par le patient.

L'alvéolite sèche se produit dans deux cas:

1. après l'extraction, le caillot de sang ne se forme pas;
2. le caillot se forme, se décompose et est évacué par la salive.

Dans les deux cas, le contenu de l'alvéole ne présente pas la couleur cerise caractéristique du caillot normal. Les parois osseuses ont un aspect gris-sale; l'os lui-même est très sensible au toucher; cependant, la sécrétion purulente dans l'alvéole est très rarement constatée, de même qu'une inflammation visible; l'enflure et l'infiltration du périoste sont peu ou pas apparents; pas d'adénite ni de trismus. Objectivement, les constatations que l'on peut faire sont uniquement: une alvéole vide, des parois osseuses très douloureuses au toucher et couvertes d'une couche grisâtre souvent malodorante.^{1,2}

Les douleurs provoquées par l'alvéolite sont assez violentes, lancinantes vers les tempes ou l'oreille, elles se manifestent quelques heures, ou même quelques jours après l'extraction de la dent. Ces douleurs sont accentuées la nuit, empêchant tout repos. Elles peuvent cependant disparaître quelques moments pendant le jour; la chaleur peut les atténuer; cependant les analgésiques ont souvent peu d'effet. Le patient présente un faciès souffrant. Quelques difficultés de prononciation, d'articulation temporo-mandibulaire et de déglutition peuvent se manifester. On ne constate pas d'élévation de la température; cependant certains cas peuvent s'accompagner d'une augmentation de la température allant jusqu'à 38°C.

La cause des douleurs sus-mentionnées paraît obscure et on est tenté de les rattacher à l'arrachement des filets nerveux des nerfs dentaires lors de l'intervention. L'irritation continuelle des extrémités des filets nerveux par les liquides buccaux favorise aussi sans aucun doute l'apparition des douleurs. En effet, il est prouvé que les douleurs disparaissent lorsque l'alvéole est hermétiquement clos; elles réapparaissent lorsque le pansement n'est plus hermétique ou tombe.³

Examen radiologique. — Après l'intervention, on ne voit qu'un alvéole vide. Très rarement, on a l'impression d'une raréfaction de la structure osseuse de l'alvéole. Nous désirons mentionner ici la grande importance que prend l'examen radiologique afin d'éviter un diagnostic erroné dû à des symptômes semblables à ceux de l'alvéolite, notamment quand

l'alvéole recèle un corps étranger, un débris ou un séquestre.

Il arrive parfois aussi que la radiographie fasse apparaître une dent voisine fort cariée et oriente le diagnostic vers une pulpite, laquelle se révèle être la cause des douleurs survenues.

Examen de laboratoire. — Un prélèvement fait dans l'alvéole présente une grande variété de germes, tous non spécifiques.⁴

Examen sanguin. — Cet examen fournit en général des résultats normaux.

Influence du sexe et de l'âge. — Il ne joue aucun rôle, pas plus que l'âge, tout au moins chez l'adulte. Cependant on rencontre très rarement des alvéolites chez les enfants et les adolescents.⁵

Autres facteurs. — Les saisons sont également sans incidence, sauf peut-être dans les pays très froids, en hiver, où la température de la bouche, qui aide à la cicatrisation de la plaie post extractionem, est réduite chez les patients particulièrement exposés.

L'alvéolite apparaît surtout au maxillaire inférieur, à cause de sa structure osseuse compacte; elle est moins fréquente au maxillaire supérieur, où la structure osseuse est spongieuse et mieux irriguée.

D'après la plupart des auteurs, 4 pour cent des extractions sont suivies d'alvéolite. Brabant⁶ estime quant à lui ce chiffre à 1.2 pour cent.

CAUSES PATHOLOGIQUES DE L'ALVEOLITE

On a successivement évoqué:

1. une extraction particulièrement traumatisante;⁷
2. une infection périapicale pré-existante et réchauffée au moment de l'intervention;
3. l'effet hémostatique de l'adrénaline dans l'anesthésie locale (ischémie);⁸
4. une hémorragie post-opératoire;
5. des troubles du système nerveux sympathique chez les sujets prédisposés;
6. une infection survenant après l'extraction;⁹
7. des rinçages trop prolongés de l'al-

véole ou la succion de celui-ci après l'extraction;

8. une déficience en vitamines C ou D (?);

9. une déficience en calcium ou en phosphates (?);

10. des affections chroniques débilitantes.

Beaucoup de ces causes sont plutôt des suppositions que des faits dûment contrôlés. D'autre part, un grand nombre d'alvéolites sont dues, à notre avis, aux conditions anatomotopographiques du champ opératoire. C'est cette cause que nous retiendrons et que nous allons tenter de mettre en évidence.

CLASSIFICATION DES ALVEOLITES

On peut classer les alvéolites en (a) alvéolite purulente, (b) alvéolite sèche ischémo-traumatique et (c) alvéolite sèche anatomotopographique.

Alvéolite purulente. — Par alvéolite purulente, nous entendons une plaie post extractionem plus ou moins purulente, comprenant des tissus cicatriciels infectés et remplissant mal l'alvéole.

Les douleurs sont le plus souvent locales, rarement lancinantes; le patient se présente habituellement deux semaines après l'intervention. Il a attribué la douleur (qui se produit généralement pendant la mastication) à l'extraction. Ce délai de deux semaines peut être plus long lorsque la plaie n'a pas d'antagoniste. En général, le patient s'est inquiété en observant quelques traces purulentes dans le procès alvéolaire.

Il arrive que le patient ne s'aperçoive pas du mauvais état de la plaie et que nous le constations nous-mêmes au moment où il se présente pour un traitement prothétique qui doit suivre l'extraction (trois semaines plus tard).

Dans le cas d'une alvéolite purulente, nous observons généralement le gonflement des tissus environnants et du bord de la plaie, l'absence de fièvre, des ganglions sous-maxillaires assez palpables. Le patient ne donne pas l'impression de souffrir beaucoup.

Il arrive rarement de rencontrer un cas d'alvéolite purulente plus étendue avec

légère température, douleurs plus accentuées, persistantes et ostéite. Dans ce cas, une prédisposition à l'infection existe généralement et peut même provoquer une ostéomyélite. Grâce aux antibiotiques utilisés actuellement ces cas sont rares, et le patient en général consulte alors très rapidement.¹⁰

Les causes de l'alvéolite purulente peuvent être les suivantes:

1. présence dans l'alvéole de l'apex de la dent extraite;

2. présence d'une fraction de la racine, ou d'un fragment de la couronne de la dent extraite, ou même un fragment de la couronne de la dent voisine (abîmée ou brisée pendant l'intervention);

3. présence d'un débris d'obturation ou d'un résidu de tampon;

4. présence d'un fragment d'os dû à un arrachement partiel ou total de la paroi de l'alvéole pendant l'extraction et non enlevé;^{11,12}

5. lésions des bords alvéolaires;

6. corps étranger (arête de poisson, débris de viande, etc.) introduit accidentellement par le patient. Dans un des cas traités, nous avons trouvé un noyau de cerise dans l'alvéole d'une première molaire permanente inférieure droite!

Dans tous les cas, la radiographie nous est d'un grand secours car elle nous révèle souvent soit une résorption osseuse, soit un restant de racine, un séquestre, un corps étranger, etc.

On peut rencontrer des cas d'alvéolite purulente bénins et d'autres plus aigus. La suppression de la cause amène dans la plupart des cas la guérison. Dans les cas rebelles compliqués d'ostéite avec infection grave, un traitement local et général est nécessaire.

Alvéolite sèche ischémo-traumatique. — L'alvéolite sèche ischémo-traumatique se caractérise surtout par un alvéole vide aux parois recouvertes d'une couche grisâtre et douloureuse au toucher. La plaie dégage une odeur de lait aigri. Un tamponnement révèle une sécrétion sérique mélangée de sang et de particules de tissus nécrosés. Les tissus voisins sont souvent douloureux à la palpation, surtout dans le prolongement de l'alvéole, tant du côté vestibulaire que palatin ou lingual.

Les douleurs sont généralement lan-

cinantes vers les tempes ou vers l'oreille, selon la mâchoire. Ces douleurs commencent quelques heures ou quelques jours après l'intervention et peuvent durer jusqu'à deux semaines (même jusqu'à quatre semaines dans les cas rebelles). Les analgésiques n'ont qu'une influence nulle ou très passagère. Le patient est accablé et présente un faciès souffrant; il dort mal et a des difficultés de mastication; il n'est pas apte à une activité normale.

Pourquoi appelons-nous cette complication de l'extraction "alvéolite sèche ischémo-traumatique" et comment se produit-elle?

Un anesthésique local contenant de l'adrénaline, un anesthésique altéré ou injecté froid, peuvent provoquer une modification circulatoire avec ischémie de la partie anesthésiée. Il est admis qu'une interruption de 10 minutes de l'afflux sanguin dans les capillaires peut détériorer irréversiblement la région anesthésiée. Par le resserrement des vaisseaux du processus alvéolaire, les parois libres de l'alvéole sont isolées de la circulation sanguine, ce qui produit une cicatrisation retardée et un danger d'infection, voire une nécrose de la partie anesthésiée.

Les interventions de longue durée, exigeant une dose supplémentaire d'anesthésique à l'adrénaline, augmentent l'ischémie et ses conséquences.¹³

L'effet ischémo-traumatique est surtout évident dans les extractions de molaires isolées, prémolaires et même canines, dans le maxillaire supérieur et surtout dans le maxillaire inférieur dont la structure osseuse est plus dense et moins irriguée et où l'alvéolite se produit quatre fois plus souvent que dans le maxillaire supérieur d'après nous, huit fois plus souvent d'après Brabant.⁶ Prenons par exemple une molaire ou une prémolaire supérieure ou inférieure isolée; des côtés mésial et distal, les extractions ont été effectuées depuis longtemps. Souvent ces dents sont fortement implantées dans l'os et, dans la plupart des cas fracturées, l'os est dense et moins irrigué. L'anesthésique y augmente l'ischémie, les tables alvéolaires sont difficiles à rapprocher et il y a de moins bonnes possibilités que l'alvéole se remplisse par un caillot de sang suffisant pour la cicatrisation normale de la plaie.

Il existe donc un état ischémique et traumatique.

Nous tenons à mentionner ici que nous avons extrait à peu près 11,000 dents sous anesthésie générale, extractions suivies du placement immédiat de prothèses obturant la plaie, sans avoir rencontré d'alvéolite sèche (à l'exception de quelques rares cas dont nous parlerons plus loin).^{14,15}

Alvéolite sèche anatomotopographique. — L'alvéolite sèche anatomotopographique est semblable en principe à l'alvéolite sèche ischémo-traumatique, hormis certaines différences, notamment par exemple que le patient se présente le plus souvent le troisième ou le quatrième jour seulement après l'intervention (le temps de l'infiltration du liquide buccal dans l'alvéole et de la décomposition du tissu granuleux en formation).

Les douleurs sont les mêmes que dans le cas précédent, de même que l'aspect dolent du patient, mais il est à remarquer que l'odeur de la plaie est fétide et frappe dès le premier examen; elle est remarquée par le patient même, qui s'inquiète de savoir si cette mauvaise odeur ne provient pas de l'estomac.

Pourquoi appelons-nous cette lésion "alvéolite sèche anatomotopographique" et comment se produit-elle?

On rencontre souvent des alvéolites après extraction de dents de sagesse inférieures avec inclinaison des racines, de prémolaires situées hors de l'arcade alvéolaire (en ectopie), de canines ou incisives latérales avec inclinaison palatine et extraites pour une cause prothétique ou esthétique.^{11,16,17}

En pareils cas, bien que l'intervention soit exécutée *lege artis* avec toutes les précautions aseptiques, sans traumatisme, avec anesthésie régionale, il se produit assez souvent des alvéolites. L'explication résulte, pensons-nous, dans le fait que le fond de la cavité alvéolaire est oblique par rapport à la couronne et empêche le drainage normal de la nourriture, qui s'introduit dans la plaie, y séjourne se décompose et contrarie la cicatrisation. Dans le cas de dents de sagesse, la pénétration de débris alimentaires dans l'alvéole est favorisée par la situation de la plaie. Lorsqu'il s'agit de dents en ectopie; il s'y ajoute le mauvais rapprochement

des tables alvéolaires et l'inclinaison de la cavité.

On peut rattacher à cette catégorie toutes les extractions de dents semi-incluses où l'intervention a été effectuée sans brutalité et où le facteur anatomotopographique joue le rôle le plus important, à cause de la forte inclinaison de la cavité alvéolaire. Nous ne parlons pas ici des dents à éruption retardée mais dont les couronnes sont entièrement dégagées alors que la racine n'est pas située dans le prolongement de la dent.

TRAITEMENT DES ALVEOLITES

Traitement curatif. — Malgré la grande quantité de moyens thérapeutiques préconisés jusqu'à présent, le traitement de l'alvéolite reste souvent décevant.¹⁸⁻²³ C'est pourquoi nous voulons présenter ici un remède très simple qui nous a en général donné entière satisfaction et s'est révélé efficace dans tous les cas d'alvéolite traités par nous. Il s'agit de l'eugénate, mélange d'eugénol et d'oxyde de zinc, sans aucun autre adjuvant tels que les sulfamides préconisés par Levy.²²

L'eugénol est, comme on sait, un des composants de l'huile de girofle. C'est un liquide jaune clair, d'une odeur aromatique caractéristique, produisant sur les muqueuses une sensation de brûlure. Sous l'influence de l'air et de la lumière, la couleur de l'eugénol s'assombrit. Il est miscible avec le chloroforme, l'éther et toutes les huiles. Il se dissout dans l'acide acétique, glacial et dans les solutions aqueuses d'hydroxyde de potassium. Il n'est pas soluble dans l'eau. Son usage est incompatible avec celui du chlorure ferrique et du permanganate de potassium. L'eugénol est un puissant antiseptique, un antiputréfiant et un anesthésique. On le conserve en récipients hermétiquement fermés à l'abri de la lumière.

L'oxyde de zinc est une poudre blanche inodore et insipide. Son point de fusion se situe à environ 1,800°C. Il se dissout dans les acides dilués, dans les solutions d'hydrate sodique et dans l'ammoniaque. Il ne se dissout ni dans l'eau ni dans l'alcool. Modérément astringent et antiseptique, il est utilisé dans certaines maladies

de la peau, employé en cosmétique, dans les préparations des ciments dentaires, il sert aussi de réactif en chimie analytique. Son contact avec la peau peut provoquer des inflammations, des exzemas, etc. L'eugénol et l'oxyde de zinc se mélangent bien et on obtient une pâte homogène de la consistance désirée.

Comment utilise-t-on l'eugénate dans le traitement de l'alvéolite? On mélange l'eugénol et l'oxyde de zinc de façon à obtenir une pâte d'une densité un peu moindre que celle préparée pour l'obturation temporaire d'une cavité dentaire, afin de pouvoir la manipuler facilement. La pâte une fois préparée, on procède, le plus délicatement possible, au nettoyage de l'alvéole à l'aide d'une curette ou d'un porte tampon imbibé d'eau physiologique ou de liquide de Dakin. La méthode la plus efficace et la plus souvent utilisée par nous est le rinçage de l'alvéole à l'aide d'une seringue de 200 ml contenant du liquide de Dakin, en évitant une pression trop forte. Il est à remarquer que même si l'alvéole n'est pas parfaitement nettoyé, l'eugénate se révèle aussi actif.

On malaxe ensuite avec une spatule une portion d'eugénate se rapprochant autant que possible de la forme de l'alvéole. On la tasse délicatement dans la cavité, de telle façon que l'orifice soit complètement obturé. Au bout d'une demi-heure, souvent moins, parfois immédiatement, la douleur a disparu, quelles qu'aient été son intensité et sa durée.

Le pansement est renouvelé lorsque la douleur réapparaît. En effet en se contractant, le pansement permet l'infiltration du contenu de la cavité buccale; à ce moment, une légère douleur se manifeste et le patient doit revenir consulter avant qu'elle ne devienne aiguë.

Lors de la deuxième séance, nous enlevons très facilement le pansement, à l'aide d'une sonde ou d'une précelle. Nous procédons comme à la première séance, c'est-à-dire au lavage de l'alvéole et au pansement.

Le patient doit être averti de ne pas boire ni manger pendant environ deux heures après la pose du pansement et de se présenter aussitôt que la moindre douleur est ressentie.

L'emploi de l'eugénate est tellement efficace que même si la douleur réap-

paraît la nuit, elle est facilement supportable jusqu'au jour suivant.

Quelle doit être la fréquence de ces pansements. Il n'y a pas de règle. En plusieurs années d'expérience, nous avons vu des cas où le patient s'est présenté une semaine ou davantage après l'application du premier pansement, celui-ci étant tombé, afin d'en faire appliquer un second. A l'examen la cavité alvéolaire se révélait aux trois-quarts cicatrisée; un second pansement était donc inutile. Entre-temps le patient n'avait ressenti aucune douleur.

En règle générale, le pansement est renouvelé deux fois, le maximum est de trois ou quatre fois, lors des cas rebelles. Quand c'est nécessaire (absence du patient ou du praticien) le pansement peut être renouvelé préventivement.

Ce traitement nous a donné entière satisfaction dans les 42 cas d'alvéolites de toutes formes que nous avons traitées.

*Traitement prophylactique des alvéolites.*²⁴⁻²⁹ — Avant d'entreprendre l'extraction d'une dent, il est conseillé de faire une anamnèse. Si l'on constate que le patient est débilité et si l'extraction n'est pas d'extrême urgence, il est souhaitable de la reporter et d'améliorer d'abord l'état général du patient; de même en cas de troubles de la crase sanguine, il faut surseoir à l'intervention et le temps de saignement, le temps de coagulation, etc. doivent être mesurés.

Une radiographie préalable nous renseignera sur l'état anatomotopographique de la dent et des régions voisines: inclinaison, état des parois osseuses, structure, infection périapicale.³⁰

Un examen et un nettoyage minutieux de la cavité buccale sont nécessaires; ils porteront sur les parties molles, le tartre, les caries voisines.

On emploiera des aiguilles stérilisées et non pas désinfectées dans l'alcool. L'endroit d'introduction de l'aiguille doit être préalablement désinfecté. La seringue sera stérile. L'anesthésique est tiédi et l'injection se fait très lentement. En cas d'inflammation du champ de l'intervention, on recourra à une anesthésie régionale ou tronculaire.¹³

Avant l'extraction de dents-piliers de bridge ou de dents couronnées, il faut

obligatoirement enlever la partie prothétique et procéder ensuite au nettoyage des parties sousjacentes, qui sont toujours des réceptacles alimentaires.

On commencera l'intervention au moyen de syndesmotoses. Le champ opératoire sera bien éclairé. Le praticien agira sans nervosité, ni brutalité.

Lorsqu'il y a lieu d'extraire plusieurs dents voisines, il vaut mieux le faire en une même séance (éventuellement avec suture); la zone intéressée sera mieux irriguée.

Il faut montrer au patient la dent extraite: en effet, la sensation des bords alvéolaires lui fait parfois supposer qu'un débris de dent reste dans la plaie et il essaie de le dégager par succion ou par manœuvres manuelles.

En cas de fracture de la dent, il est souhaitable de faire une radiographie pour ne pas procéder par tâtonnements à l'extraction du fragment brisé et à ne pas traumatiser le champ opératoire, tout en prolongeant l'intervention, ce qui nécessiterait peut-être une dose supplémentaire d'anesthésique.

D'autre part, il faut tamponner le champ opératoire avec des tampons de gaze stérile et éviter l'ouate qui laisse souvent des fibres dans la plaie.

Si l'extraction de la racine brisée s'avère difficile, il est préférable de pratiquer l'ablation d'une partie de la table osseuse; l'intervention sera ainsi plus rapide et moins brutale.¹

On égalisera ensuite les bords alvéolaires si c'est nécessaire et on rapprochera les tables alvéolaires pour diminuer l'orifice extérieur de la cavité. Il vaut mieux ne pas faire rincer la bouche aussitôt après l'extraction.

Après avoir terminé l'avulsion, on place un tampon de gaze stérile entre les arcades dentaires et on fait refermer les mâchoires; ce tampon sera laissé en place une demi-heure à trois-quarts d'heure pour empêcher l'introduction de la salive dans la plaie jusqu'au moment de la levée de la contraction des capillaires, moment où se constituera le caillot.

Avant l'extraction, toutes les explications seront données au patient en ce qui concerne les précautions à prendre après l'intervention, afin de lui éviter de parler après la pose du tampon protecteur.

L'opéré ne doit ni manger ni boire pendant environ cinq heures et s'abstenir de nourriture très chaude ou très froide pendant la journée qui suit l'intervention, ne pas toucher la plaie ni la sucer, éviter l'excès de tabac, de café fort et d'alcool. Le tampon de gaze doit être expulsé au bout de 45 minutes, sans y porter les doigts.

L'introduction de poudres ou de cônes à base de sulfanilamide ou de pénicilline dans la plaie est à déconseiller: elles sont un obstacle à la formation du caillot. Quand une dent est infectée *ante extractionem*, il est préférable d'administrer des antibiotiques par voie buccale ou par injection.

Il faut aussi éviter l'absorption exagérée d'analgésiques à base d'acide acétylsalicylique, tant avant qu'après l'intervention. Ce produit paraît, dans certains cas, retarder la coagulation et la cicatrisation normale de la plaie.

Le cas où toutes ces précautions prophylactiques sont le mieux respectées est celui de l'extraction sous anesthésie générale avec pose immédiate d'une prothèse bien adaptée. Il ne se produit en effet pas de vasoconstriction locale (ischémie), la plaie est bien protégée par la prothèse qui fait office de tampon, empêche toute succion et manipulation ultérieures (sauf en cas de mauvaise adaptation ou de mobilité de cette prothèse).

CONCLUSIONS

Le traitement de l'alvéolite que nous avons exposé nous a donné entière satisfaction dans tous les cas, bien qu'il présente un léger inconvénient dû à la saveur désagréable de l'eugénol, inconvénient qui disparaît d'ailleurs très rapidement par suite de la "prise" du pansement à l'oxyde de zinc.

Notre petite étude n'a d'autre prétention que celle d'aider à prévenir l'apparition de cette complication d'alvéolite, complication en réalité bénigne d'un acte de notre pratique courante. Outre le désagrément certain que l'alvéolite présente pour le patient, elle peut saper sa confiance en notre savoir-faire.

Les considérations qui terminent cette étude nous orientent vers une meilleure

connaissance du terrain et des conditions à réunir dans la conduite de notre thérapeutique. Ces considérations montrent que l'extraction d'une dent n'est pas un simple travail manuel mais bien un acte intellectuel dont le but est l'éviction de cette sorte de "corps étranger" qu'est devenue la dent inapte à toute utilisation.

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Practical Exercises in Dental Mechanics

F. G. Shaw and D. C. Scott. Ed. 3. London, Henry Kimpton, 1968. 394 p. Illus. 90s.

This current edition is divided into three parts which encompass the essential anatomy, the fabrication of all types of prostheses and the use of the pertinent dental materials.

The first section deals with anatomy and tooth morphology, providing the necessary understanding of this basic knowledge at the technical level. The concluding glossary of terminology is useful even though I do not agree with all the definitions. However, the accompanying Kennedy partial denture classification should be transposed to the partial denture section in the second part of the book. All types of prostheses, removable and fixed, are described here; only the fabrication of paedodontic space maintainers is omitted. The many illustrations include line drawings as well as photographs of commercially manufactured laboratory equipment. The text offers proper orientation to the technician while recognizing that the design of all prostheses is the sole responsibility of the dentist.

The third section, dealing with dental materials, is interesting because it approaches the subject in terms of theory as well as laboratory application. Many technicians have abused dental materials because of inadequate knowledge about their properties. Only by using the appropriate material in a proper manner can its full potential be exploited.

This comprehensive book provides a wealth of information for the technician, particularly the trainee who wants to understand the full scope of the demands made of the dental laboratory.

E. P. Downton

Dental Practice Administration

R. K. Stinaff. Ed. 3. St. Louis, C.V. Mosby Company, 1968. 214 p. Illus. \$9.45

This latest edition underlines the authoritative worth of the original 1960 edition and the

later 1964 edition. It is a distilled version of the second, less the chapter on lay education. On this subject the author has changed his attitude just a little. Lay education, he now suggests, is best achieved by maintaining good dentist-patient relations in the dental office, and only secondarily by dentists addressing lay groups in the community.

The content is focused primarily on the new graduate and the factors he must appreciate at the start of his professional career. Stinaff categorizes the career avenues open to the young dentist and classifies a wide range of locations and their likely relevance to the nature of his practice, types of patient and resultant way of life. Despite this emphasis, a book which contains such a wealth of ideas, methods, and philosophy about conducting a practice is equally inspiring for the established practitioner.

While the author clearly indicates his own preferences, he tabulates fairly the different opinions where disagreement exists.

Altogether this is a fine book.

A. E. MacLeod

Dento-facial Development and Growth

J. H. Scott. Oxford and Toronto, Pergamon Press, 1967. 205 p. Illus. \$11.00

This is the sixth book in a series on dentistry published by the Pergamon Press. Devoid of any dental or orthodontic procedures, it provides background material important to the orthodontist or dentist interested in development and maintenance of the dentition.

Of the five chapters in the book, the first deals with development and form of the dentition. The author suggests that tooth eruption results from growth of the pulp between the calcified part of the tooth and the base of the follicle, thereby making root formation a consequence rather than a cause of this movement.

In considering the shape of dental arches, an interesting method of determining arch form by the use of a "catenometer" is presented.

Bone as a tissue is described in chapter 2. The types of ossification and the components of bone are mentioned. This chapter contains

few new concepts and has no specific dental relevance.

Chapter 3 deals with development of the craniofacial skeleton. The embryology and postnatal development of the head are thoroughly reviewed. Discussing the importance of function in this area, the author suggests that some deformed faces and irregular dentitions may result from insufficient jaw function which in turn is due to modern diets.

Orofacial musculature is the subject of chapter 4. After reviewing the development of muscles and their relationship to the bony skeleton, the author states that the tongue and the lips and cheek counterbalance each other but do not determine arch form. He also contends that an apparently normal occlusal relationship in a set of casts may in fact be abnormal if it is not in harmony with the functional pattern of movement of the muscles.

The final chapter on anatomy of cephalometrics provides a glossary of the more commonly used landmarks and some interpretation of measurements derived from these landmarks.

This book provides a good practical review of the craniofacial skeleton and presents many new concepts. It is well organized, adequately illustrated and well written.

R. W. Faith

Periodontics for the Dental Hygienist

D. L. Allen, W. T. McFall, Jr., and G. C. Hunter. Philadelphia, Lea & Febiger, 1968. (Available from The Macmillan Company of Canada Limited, Toronto) 211 p. Illus. \$8.75

The old saying that "precious gifts come in small packages" aptly applies to this work by Drs. Allen, McFall and Hunter. No longer will dental hygiene educators and students have to labour through texts for dental students and dentists in order to satisfy their own particular needs.

The authors clearly state the urgency for having dental hygienists play a more active role in preventive dentistry, particularly preventive periodontics. The ultimate responsibility for this role rests with the dental profession but, as Allen, McFall and Hunter imply, hygienists must have a thorough knowledge of the health of the periodontium in order to play their part.

The book begins by devoting the first several chapters to the anatomy and physiology of the periodontium, periodontic pathology and aetiology of periodontic disease. Students who are well grounded in oral and dental anatomy and general pathology can readily apply their knowledge to these topics.

That discussion of patient histories, clinical findings, instrumentation, oral physiotherapy and patient education repeats what is taught in courses devoted to the fundamentals of dental hygiene. Repetition, however, often reinforces learning and the detailed way in which the authors present this material deserves close attention.

The clinical periodontic procedures which the hygienist must learn (not memorize) are described in the chapters devoted to special patient problems and the scope of periodontics. Learning, to be complete, must be aided by actual clinical experience.

Despite its small size, this is a well written and illustrated text. The references and glossary are also excellent.

Mary G. Sloanaker

Mustard's Introduction to Public Health

L. S. Goerke and E. L. Stebbins. Ed. 5. New York and London, Collier-Macmillan Canada, Ltd., 1968. 472 p. Illus. \$8.80

The first edition of this book was published in 1935 by the late H. S. Mustard, an outstanding leader in his field. The latest edition provides a broad perspective of public health, ranging from historical background to the present-day scope of services. This is presented on the basis of man's changing concepts of health and disease, his progress in scientific knowledge, and especially with regard to the social forces that influence public health progress. The material is well organized and clearly outlined. Technical terms are well defined, making the publication particularly useful as an introductory text.

For Canadian readers, it lacks a description of the political structure of our health services and our health legislation; but the basic principles have universal application, and the complex structural and administrative organization of public health services today is well illustrated by examples taken from the United States.

The book contains only a few brief references to dentistry. Nonetheless, a considerable amount of useful background material for the student of dental public health is contained in the chapters on historical development of public health, demographic data and vital statistics, epidemiological investigation and other community health research, chronic diseases, maternal and child health, health of the child in school, and health education. This publication is recommended as a 'selected reference' text for the teacher of dental public health and as general background reading in public health for postgraduate and graduate dental students.

C. W. B. McPhail

cda retirement savings plan
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Quarterly Report

30-11-68

Rapport trimestriel

	Unit value Valeur unitaire	Unit value Valeur unitaire	Unit value Valeur unitaire	
	30-11-68	30-11-67	30-11-63	
Government Bond Fund	\$13.754	\$13.531	\$12.521	Fonds d'obligations gouvernementales
Corporate Bond Fund	14.974	14.577	13.237	Fonds d'obligations corporatives
Common Stock Fund	27.750	22.548	16.040	Fonds d'actions ordinaires

Section 79B of the Income Tax Act permits tax free contributions of up to 20 per cent of earned income or \$2,500, whichever is less, to a personal retirement savings program.

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Postage puzzle

Economy — by hiking the prices — is the watchword of the friendly new management at the Canada Post Office. In return, our Journal will flit across the land, to be delivered in the fullness of time to the dentists to whom it is addressed. For this splendid service we will have to pay new postal rates that are only slightly revised upward — like 800 per cent.

Fanciful? Well, that's what we might have said before we read Mr. Kierans' Post Office Amendment Act which threatens to disqualify our Journal from second class mailing privileges. "It is necessary to trim the recurring deficits that arise from the operation of the second class service," said the Postmaster General as he piloted his bill through the Commons last October. Fair enough, we thought. After all, by doubling the second class mailing charges Mr. Kierans is only applying sound business principles in making the service pay its way. "We also want to establish a more logical basis for entitlement to second class mailing privileges," he added. And that's where the real rub lies. For Mr. Kierans' idea of entitlement is simply a device whereby two out of every five publications now benefiting from second class rates will be forced to drop into the third class slot where their rates will soar about eightfold.

Some 5,000 Canadian publications have second class mailing privileges and about 2,000 are liable to lose them on April 1 under the new legislation. Among those hit will be church publications, the trade union press and publications produced by professional organizations like the Canadian Dental Association. Curiously, periodicals put out by organizations other than trade, fraternal, professional or church organizations will be eligible to retain their second class mailing privileges. This has provoked strong protests, especially from professional associations who naturally resent the imposition of higher postal charges upon their own publication while those of commercial competitors will presumably continue to benefit from preferential treatment. But the Post Office, while not denying this eventuality, has turned a deaf ear to the CDA's repeated pleas that our Journal not be penalized in this arbitrary fashion. No dice, it says. Publications such as ours will not be eligible for acceptance as second class mail after April 1, and that's that.

But under officialdom's cold exterior there lurks a warm and friendly heart. Why else would the Post Office have sent us one of those spanking new three-page application forms which any publication that wants to retain second class privileges can send to the local postmaster along with \$15 to cover the cost of studying it? Of course, a new application must be made every year and the \$15 fee is also payable annually. The application fee is expected to bring in \$45,000 a year from the 3,000 publications that will be eligible under the new terms after April 1. Far from eating into Mr. Kierans' deficit, however, this tidy little sum will only take care of processing these applications, if that. But in a Just Society anything is possible, for a price.

Anyone for Independent Postal Services Limited?

Un bouquet de fleurs à Georges Pelletier

Modeste sans être réservé; persuasif sans être autoritaire; bien informé sans être imbu de ses opinions — voici les attributs que Georges Pelletier apporta au Journal et qui portent son empreinte distinctive. Avec quelles autres paroles peut-on chanter les vertus de cet ami qui occupa le poste de rédacteur adjoint depuis 1965 et qui se consacrera dorénavant complètement à la tâche du bureau?

Thoreau composa une dissertation immortelle sur l'amitié ("L'univers semble être en faillite dès que nous commençons à discuter du caractère des individus") et il ne le fit qu'avec hésitation; mais s'il avait partagé le banc de travail de ce Journal avec Georges, il n'aurait eu aucun doute à cet égard. En effet, s'il pouvait être rappelé des ténèbres, Thoreau serait bien l'homme à analyser un collègue tellement charmant et complexe. C'est la maxime qui dit qu' "être vigilant, c'est être vivant" qui nous met sur la piste d'une des qualités frappantes de Georges Pelletier. Alerté en tout temps, il s'est toujours prêté avec intelligence aux idées qui lui étaient présentées. Il avait ce talent enviable de savoir ce qu'il faut dire et comment le dire. Sa fermeté envers certains collaborateurs défaillants était née de sa propre sévérité avec lui-même. Ses connaissances de l'industrie agricole de la rive sud du Saint Laurent l'ont-elle peut-être aidé à reconnaître et à déraciner rapidement les mauvaises herbes littéraires? Les collaborateurs embrouillés se rappelleront avec reconnaissance avec quelle main sûre il savait faire l'entaille pénétrante qui libérait non seulement le malheureux auteur mais qui y apportait aussi la clarté.

Durant son séjour, Georges Pelletier a métamorphosé la partie française du Journal en un organe de communication vibrant et vital. Il travaillait le soir après une journée complète au bureau, ainsi que le samedi et le dimanche à la suite d'une semaine exigeante au service de ses patients. Néanmoins, il n'a jamais défailli parce que sous des dehors bénins et un esprit ouvert se cachait une détermination qui caractérisait l'homme qui avait déjà pris une décision. Adieu cher ami! Nous qui avons travaillé de près avec vous pendant vos années de rédacteur garderons toujours le souvenir d'un voyage en compagnie d'un homme à l'esprit éclairé.

A nosegay for Georges Pelletier

Modest but not retiring; persuasive but not overbearing; knowledgeable but not opinionated — these are the attributes which Georges Pelletier brought to the Journal and where he left his clearest imprint. What other words shall celebrate the virtues of this friend who occupied the associate editor's chair since 1965 and now returns to full-time practice?

Thoreau who wrote an immortal essay on friendship ("The universe seems bankrupt as soon as we begin to discuss the character of individuals") did so with some misgivings; but had he shared with Georges the rowing bench of this Journal, he would have had no doubts on this score. Indeed, if he could

be recalled from the shades, Thoreau would be well equipped to analyse our complex but delightful colleague. His dictum "To be awake is to be alive" gives an important clue to one of Georges Pelletier's salient qualities. At all times alert, he always responded intelligently to ideas from any quarter. He had an enviable skill in knowing what to say and how to say it. His firmness in the treatment of faltering contributors came of a severity with himself. Perhaps his husbandry in the cultivation of St. Lawrence South Shore meadows helped him to recognize and quickly eradicate literary weeds. Entangled contributors will gratefully recall with what sure hands he could make the incisive pruning snip which would not only free the hapless writer but also let more daylight in.

During his tenure Georges Pelletier transformed the French component of this Journal into a vibrant, vital medium of communication. He laboured in the evenings after a full day in private practice and on weekends following a demanding week at the service of his patients. Yet he never once faltered because beneath a mild exterior and an open mind there was a firmness of purpose that characterized a man who had made up his mind. And so farewell, good friend. We who worked most closely with you in your years as editor will always count these years as an intellectual adventure.



Sherbrooke Street West, where modern and classical architecture blends, is within 10 minutes' walk of Montreal's Queen Elizabeth Hotel, site of the CDA national convention, July 9-11.

L'ouest de la rue Sherbrooke, qui combine l'architecture moderne au style classique, se trouve à 10 minutes de marche de l'hôtel Reine Elizabeth de Montréal, où se tiendra le congrès national de l'ADC, du 9 au 11 juillet.

dentistry in the news

The Association

Federal Aid to Dental Education Inadequate, Says CDA

The Minister of National Health and Welfare has told the Canadian Dental Association that, in fiscal 1967-8, federal assistance was granted to 214 dentists and 36 dental hygienists attending short or extended education courses. The statement came in reply to an earlier CDA request that Ottawa allocate more money for dental education (reported in the October 1968 Journal).

Only six of the 214 dentists were, however, enrolled in courses exceeding five days. Five of these six attended dental public health courses. Twenty-five of the 36 dental hygienists who received financial assistance attended one or two day courses.

The Canadian Dental Association has therefore reiterated to the federal department the urgent need for increased assistance in training teachers and researchers for Canada's expanding dental schools.

CDA Protests New Journal Postage Rates

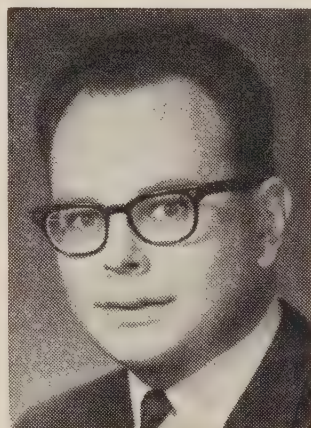
CDA Secretary W. G. McIntosh has protested vigorously against the increased postal rates announced last November 1 following passage by Parliament of the Post Office Amendment Act. The legislation raises the rates for all classes of mail. It also withdraws second class mailing privileges from publications put out by trade, fraternal, church and professional organizations like the Canadian Dental Association. After April 1 these

publications will be classified as printed matter to which the much higher new third or fourth class mailing rates apply. As a result, the cost of mailing the CDA Journal could soar by as much as 800 per cent. At present the annual cost of postage for the Journal is about \$1,450. At the new rates the figure would be about \$11,600.

In letters to the Post Office Department, Dr. McIntosh questioned the reason for according preferential treatment to commercially owned publications which can retain their second class mailing privileges. Postal officials conceded the point but claimed that the legislation was intended to limit second class mailing privileges to publications issued by the Canadian publishing industry and containing news or articles of more general interest to the public.

Dr. Tenenbaum New Associate Editor

M. P. Tenenbaum, Montreal, has been appointed associate editor of the *Journal of the Canadian Dental Association*, succeeding Georges Pelletier who resigned November 29, 1968.



M. P. Tenenbaum

Dr. Tenenbaum was born in Brussels, Belgium. He came to Canada as a child, attended high school in Montreal and graduated from the Faculty of Dentistry, McGill University, in 1959. He practises at 5757 Decelles Avenue, Montreal. Dr. Tenenbaum is active in the Alpha Omega Fraternity and in the Mount Royal Dental Society, being that society's delegate to the Association Dentaire de la Province de Québec. He has served as editor of the Mount Royal Society's *Newsletter*

and is correspondent to the *Alpha Omega* which is published in the United States. His French contributions have appeared in *Le Journal Dentaire du Québec*.

In his capacity as associate editor Dr. Tenenbaum will supervise the French content of the *Journal of the Canadian Dental Association*.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on December 31: Government Bond Fund \$13.636; Corporate Bond Fund \$14.808; Common Stock Fund \$27.170. Total assets (market value) of the plan were \$9,307,795.03.

The following common stock portfolio purchases and sales occurred during the preceding month: Bought 12,000 shares Ackland Limited and 100 shares Union Gas; Sold 1,000 shares Shell A and 3,060 shares Jefferson Lake Petro Chemicals.

For further information please write to the Administrator of CDA-sponsored Pension and Insurance Plans, Professional and Industrial Pensions Ltd., 2249 Yonge St., Toronto 7, Ont.

Canada and the Provinces

Revenue Department Clarifies Convention Expense Deduction Rules

The Department of National Revenue has reiterated that a practising dentist may still attend a convention anywhere outside Canada and claim a deduction for reasonable expenses attributable thereto provided the convention is sponsored by a non-Canadian dental organization and attendance was for professional reasons.

However, expenses incurred in attending a convention sponsored by a Canadian organization and held outside Canada are no longer deductible in computing income tax (see also "Federal Income Tax Returns by Dentists," J. Canad. Dent. Ass. 34:650, December 1968).

The rule in the Income Tax Act remains

in effect that a claim may not be made for expenses in attending more than two conventions in the taxation year.

Royal College Announces Examination Results

The Royal College of Dentists of Canada has announced the names of successful candidates in the Part II (oral) examinations held November 28-29, 1968. They are:

Endodontics: J. S. Smith and C. D. Torneck, Toronto; and R. L. Tegart, Edmonton.

Oral Surgery: F. W. Lovely, Halifax; and P. Mercier, Montreal.

Prosthodontics: G. A. Zarb, Toronto.

Dentist Sought Alberta Premiership

W. A. Buck, a Fort Saskatchewan dentist, recently elected to the Alberta legislature, was a candidate at last year's leadership convention of the Alberta Social Credit party. With this leadership went the premiership.

Though unsuccessful in his quest, Dr. Buck was commended for his initiative in seeking his province's highest elective office.

Dental Organizations

Newfoundland Dentists Get New Act

Legislation, adopted May 23, 1968, gives Newfoundland dentists greater responsibility over dental licensure in the province. Under the new act, the Newfoundland Dental Association replaces the former Newfoundland Dental Society, and the Newfoundland Dental Board replaces the former Dental Board of Newfoundland. The new dental board consists of four licensed dentists elected by the Newfoundland association. The deputy minister of health is also an ex-officio member of the board. The act also provides for the issuing of temporary permits to cer-



Continuing education was high on the list of topics at the November 13-15, 1968 board meeting of the Alberta Dental Association. L. G. Mandin, president, and Dean H. R. Maclean of the Faculty of Dentistry, University of Alberta, examine one of the teaching aids to be used in the Alberta association's continuing education program.

The Board of Directors of the Alberta Dental Association met in Edmonton November 13-15, 1968. Pictured are (seated, l. to r.) J. C. Waddell, Calgary; L. G. Mandin, St. Paul, president; and A. D. Sparrow, Calgary, president-elect; (standing, l. to r.) G. S. Sakumoto, Taber; J. S. Little, Edmonton; A. H. Lane, Edmonton, past president; J. E. L. Mathieson, Edmonton; and R. G. Dickson, Drumheller.



tain categories of foreign dentists who are employed by provincial agencies.

Advocate Merger for BC Dental Organizations

The two existing provincial dental organizations in British Columbia may give way to a single new organization if recommendations of a management study are fully implemented.

The proposal by Stevenson and Kellogg Ltd., management consultants, which calls for replacement of the College of Dental Surgeons of BC and the BC Dental Association by a new Dental Federation of British Columbia, received approval in principle at a special meeting of the BCDA last December 7. It was previously endorsed by the Council of the College and by the executives of the BCDA and the Vancouver and District Dental Association. The BCDA has struck a committee to implement the change.

Dr. Archambault Succeeds Dr. Picard as President of Quebec College

Marcel Archambault of Montreal was elected president of the College of Dental Surgeons of the Province of Quebec on October 22, 1968. He succeeds Lorenzo Picard of Sorel.

H. L. Mussells, Montreal, was selected first vice-president. Louis Bernier, Quebec City, is second vice-president. R. M. LeBlanc, Montreal, continues as registrar-secretary.

Other members of the Executive Council are Henri Brouillet, Roger Charette, Herbert Caplan, Roger Coulombe, Marius Crête, Claude de Grandmont, G. M. Dundass and C. E. Gosselin.

Dr. Henderson Heads Saskatchewan Children's Group

P. D. Henderson, Saskatoon, was elected president of the Saskatchewan Chapter of

the Canadian Society of Dentistry for Children last November 23. Named with Dr. Henderson were M. W. Dickson and R. E. Racine, both of Saskatoon, vice-president and secretary-treasurer respectively.

Canadian Dental Schools

BC Dental College Grant Helps UBC

The College of Dental Surgeons of British Columbia recently awarded a grant of \$50,000 to the Faculty of Dentistry, University of British Columbia. This money, supplemented by grants from the university's own capital fund and from Ottawa's Health Resources Fund, will enable the faculty to complete and equip approximately 24,000 feet of space in the John Barfoot Macdonald Building (dental health sciences) left unfinished when the building was occupied in August 1967. This will provide the faculty with an electron microscope suite, a radio-isotope laboratory, four general research laboratories, and additional space for secretarial staff.

Three New Appointments at Alberta U

Dean H. R. MacLean of the Faculty of Dentistry, University of Alberta, has announced three new full-time appointments in the faculty's basic sciences department: D. J. Carmichael, BSc (Melbourne), PhD (Nottingham); H. M. Dick, DDS, MSc; and N. R. Thomas, BDS, BSc and PhD (Bristol).

Economics

Alberta Pensioners Service Will Raise Payments to Dentists

The government of Alberta has agreed to increase its support for the Pensioners Dental Service from 95 cents to \$1.15 per beneficiary effective April 1. Prorated

payments to dentists, hitherto set at 85 per cent, will also go up on April 1 to 90 per cent.

The Alberta Pensioners Dental Service is a public assistance dental program administered by the Alberta Dental Association.

Awards and Honours

Faust Gowda and H. R. MacLean of Edmonton were recently named honorary members of the Edmonton and District Dental Society. Drs. Gowda and MacLean are classmates who graduated in 1928 from the University of Alberta. Both have been members of the Edmonton society for 40 years. Dr. MacLean is dean of the Faculty of Dentistry, University of Alberta, and president-elect of the Canadian Dental Association.

Deaths

Alexander, Homer Lindsay. 70. Sidney, BC. North Pacific College, University of Oregon, 1924. 16-12-68. Survived by Marjorie (wife); Donald (son); Mrs. W. Donaldson (daughter); and four grandchildren.

Good, Mac Orestes. 66. Cornwall, Ont. Royal College of Dental Surgeons of Ontario, 1925. 27-11-68. Survived by Flora (wife); David, Mack and Robert (sons); Mrs. Aileen Russell and Mrs. Morris Kertzer (daughters); his mother and nine grandchildren.

Harlow, Walter Elton. 65. Bridgetown, NS. Dalhousie University, 1924. November 1968.

Latour, Antoine. 67. Montreal. Université de Montréal, 1926. 16-12-68. Survécut par Elda (épouse) et Maurice et Roland (fils).

Robb, William James. 73. Winnipeg. Royal College of Dental Surgeons of Ontario, 1921. 15-12-68. Survived by Hilda (wife); Major A. M. Robb (son) and Mrs. D. M. O'Neil and Mrs. J. A. English (daughters).

L'Association

L'ADC demande l'aide des associations membres pour établir des projets-pilotes dans le cadre du régime de santé dentaire pour les enfants

Le secrétaire de l'Association, le Dr W. G. McIntosh, a invité les associations membres à suggérer des endroits qui conviendraient à l'établissement de projets-pilotes, dans le cadre du régime de santé dentaire à l'intention des enfants que préconise l'Association dentaire canadienne. Le Conseil des Gouverneurs a accepté le régime à Vancouver, en juin dernier. Il y a vu "un moyen pratique d'améliorer la santé dentaire de la nation". Le Conseil, notant la carence en données susceptibles de permettre d'estimer le coût et les besoins de main-d'œuvre, a recommandé que l'on procède à des projets-pilotes afin de réunir plus de données sur les traitements initiaux et les traitements d'entretien, les indices de santé dentaire chez les enfants avant et pendant leur participation au programme, les demandes de traitement et les taux d'utilisation, le caractère pratique de la fluoruration en tant que thérapeutique collective, les conséquences d'un tel programme pour les praticiens privés et les problèmes qui pourront se présenter dans l'administration du régime.

Le Dr McIntosh a déclaré qu'il était souhaitable d'établir des projets-pilotes dans des régions avec différentes concentrations de population et des rapports différents dentiste/population. Les endroits qui conviendraient à ces projets devraient comprendre des communautés isolées, rurales et urbaines, au même titre que des districts scolaires des grandes régions métropolitaines et des régions

dont le rapport dentiste/population est bon, moyen et insuffisant. Il faudrait étudier aussi, a-t-il déclaré, des régions où l'eau est fluorée et d'autres où elle ne l'est pas.

Il est essentiel que la société dentaire locale, les gouvernements locaux et provinciaux ainsi que les autorités scolaires collaborent à l'établissement de ces projets-pilotes, a ajouté le Dr McIntosh.

Il faut qu'il y ait un dentiste qui coordonne et dirige le projet-pilote et une agence qui administre le paiement du régime dentaire.

On a demandé aux associations-membres qui proposeront des sites éventuels pour ces projets d'appuyer leurs recommandations en fournissant des renseignements sur les ressources dentaires locales, la population préscolaire et scolaire, les caractéristiques de la population locale, les statistiques locales sur la santé dentaire et les ressources financières éventuelles pour la réalisation du projet-pilote. Ces renseignements sont nécessaires pour la sélection des endroits où réaliser ces projets, a déclaré le Dr McIntosh.

L'ADC s'élève contre les nouveaux tarifs postaux

Le secrétaire de l'ADC, le docteur W. G. McIntosh s'est vigoureusement élevé contre l'augmentation des tarifs postaux annoncée le 1er novembre à la suite de l'adoption par le Parlement de la Loi de l'amendement du Service des Postes. Cette législation hausse les tarifs de toutes les classes de courrier. Elle annule également les privilèges d'expédition de deuxième classe dont jouissaient les publications des organisations commerciales, fraternelles, religieuses et profes-

sionnelles telle l'Association dentaire canadienne. Après le 1er avril, ces publications seront considérées comme matière imprimée et les nouveaux tarifs plus élevés de troisième et quatrième classe leur seront appliqués. Le coût d'expédition du *Journal de l'Association dentaire canadienne* pourrait donc subir une augmentation allant jusqu'à 800 pour-cent. En ce moment les frais d'affranchissement du Journal sont d'environ \$1,450 par an. Le nouveau tarif élèverait ce chiffre à environ \$11,600.

Dans ses lettres au Ministère des Postes, le docteur McIntosh a mis en question les raisons qui permettent d'accorder un traitement préférentiel aux publications qui sont la propriété d'entreprises commerciales et qui continuent à jouir des privilèges d'affranchissement de deuxième classe. Les fonctionnaires des Postes ont admis ce fait mais ont soutenu que cette législation avait l'intention de limiter les privilèges d'affranchissement de deuxième classe aux publications des maisons d'édition canadiennes qui publient des nouvelles ou des articles qui intéressent plus le grand public.

Le comité des services dentaires demande de l'appui pour des programmes prépayés sous l'égide de la profession

Le comité des services dentaires de l'ADC, à sa réunion des 24 et 25 novembre, a demandé à la profession de prendre une 'initiative importante' en fournissant au public des programmes dentaires prépayés, sans but lucratif. "Ces programmes serviront l'intérêt public en établissant, pour les soins dentaires, des standards élevés que devront égaler les programmes commerciaux, les programmes d'assurance et les autres", d'après le comité. L'existence de sociétés de service dentaire dans toutes les provinces facilitera l'établissement d'un système de programmes prépayés multi-provinciaux.

Le comité des services dentaires demandera au Conseil des Gouverneurs (1) d'approuver le principe du prépaiement pour les services dentaires et (2) d'appuyer la participation des programmes sans but lucratif, sous l'égide de la profession, avec

ou sans privilèges de consolidation du fonds, dans le domaine du prépaiement dentaire.

Le comité a loué l'arrangement contractuel qui existe entre la Dental Services Association de la Colombie britannique et un organisme bénévole. Aux termes de cet accord, la DSA de la CB garde le contrôle total sur les lignes de conduite et de la participation des dentistes à ces programmes, alors que l'organisme en question fournit l'assurance, la consolidation des fonds et l'administration. "Un tel arrangement permet à la profession de mettre en vigueur des programmes sous son égide, sans encourir de risques financiers", a déclaré le comité.

D'autre part, le comité a décidé:

de revoir, tous les trois ans, la liste des services dentaires de l'ADC et le facteur responsabilité du système d'honoraire à valeur relative,

de mettre au point un système de priorités pour les bénéficiaires de l'assistance publique en services dentaires, et

de mettre à jour le manuel de 1962 de l'ADC sur la pratique collective.

Le comité a réaffirmé également une résolution prise par le Conseil des Gouverneurs, en 1967 sur les barèmes des honoraires et a recommandé que le paiement, sur la base des services rendus, soit conforme aux barèmes d'honoraires provinciaux, en ce qui concerne le dédommagement des dentistes pour services rendus aux bénéficiaires de l'assistance publique.

Plusieurs membres corporatifs augmentent leurs subsides à l'ADC

Les associations dentaires de Terre-Neuve, de la Nouvelle Ecosse, du Nouveau-Brunswick et le Collège des Chirurgiens-Dentistes de la Colombie britannique ont fixé le subside qu'ils paieront, en 1969, à l'Association dentaire canadienne, à \$65 par dentiste enregistré. Le Collège des Chirurgiens-Dentistes de la Saskatchewan calculera sa subvention pour 1969 sur la base de \$55 par dentiste enregistré.

Ces décisions ont été prises à la suite d'une résolution du Conseil des Gouverneurs demandant instamment aux asso-

ciations membres d'augmenter leurs contributions à l'ADC à \$65 par membre, dans un proche avenir.

Le Dr Tenenbaum nommé rédacteur adjoint

Le Dr M. P. Tenenbaum de Montréal vient d'être nommé rédacteur adjoint du *Journal de l'Association dentaire canadienne*. Il succède au Dr Georges Pelletier qui a donné sa démission le 29 novembre 1968.



Le Dr M. P. Tenenbaum

Le Dr Tenenbaum est né à Bruxelles, en Belgique. Il vint au Canada très jeune, fit ses études secondaires à Montréal et reçut son diplôme en dentisterie à l'Université McGill, en 1959. Son cabinet se trouve au 5757 avenue Decelles à Montréal. Le Dr Tenenbaum joue un rôle actif dans la fraternité Alpha Omega et dans la Mount Royal Dental Society, dont il est le délégué auprès de l'Association dentaire de la province de Québec. Il a été rédacteur du *Newsletter* de la Mount Royal Dental Society et il est correspondant de l'*Alpha Omegan* publié aux États-Unis. Il a contribué, en français, au *Journal dentaire du Québec*.

En tant que rédacteur adjoint, le Dr Tenenbaum supervisera le contenu français du *Journal de l'Association dentaire canadienne*.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association dentaire

canadienne étaient les suivants au 31 décembre: fonds d'obligations gouvernementales \$13.636; fonds d'obligations corporatives \$14.808; fonds d'actions ordinaires \$27.170. L'avoir total (valeur marchande) du régime se montait à \$9,307,795.03.

Au cours du mois précédent, les transactions, achats et ventes, d'actions ordinaires ont été les suivantes: achat 12,000 actions de Ackland Limited et 100 actions de Union Gas; vente 1,000 actions de Shell A et 3,060 actions de Jefferson Lake Petro Chemicals.

Pour de plus amples renseignements, veuillez écrire à: The Administrator of CDA-sponsored Pension and Insurance Plans, Professional and Industrial Pensions Ltd., 2249 Yonge St., Toronto 7, Ont.

Le Canada

Le Collège royal va reconnaître des experts non spécialistes

Le Collège royal des Chirurgiens-Dentistes du Canada a annoncé son intention de mettre en vigueur le paragraphe 3 (d) de sa loi d'incorporation qui permet "la reconnaissance et la désignation de dentistes qui possèdent des qualifications spéciales dans des domaines qui ne sont pas reconnus comme spécialités."

Pour reconnaître ces candidats, le Collège établira une nouvelle catégorie, celle des sciences dentaires, composée d'associés (fellows) à charte et d'associés admis par examen. Les associés à charte seront admis sans examen et seront choisis parmi les dentistes ayant apporté des contributions remarquables dans leurs domaines particuliers depuis au moins 10 ans. On s'attend à ce que les candidats d'associés à charte soient des professeurs qui enseignent depuis longtemps. D'autres associés seront admis après examen. Le Collège publiera des renseignements sur ces examens à une date ultérieure.

Le Dr J. E. Speck, secrétaire général-trésorier du Collège royal a invité tous les associés actuels, et en particulier ceux qui s'occupent d'enseignement dentaire, à donner les noms de dentistes émérites, dignes d'être nommés associés à charte,

dans la catégorie des sciences dentaires. Parmi les candidats qui seront considérés, citons les dentistes qui se sont occupés activement de programmes d'enseignement post-scolaire, ont enseigné à des spécialistes ou ont apporté une contribution remarquable dans le domaine de l'enseignement ou de la recherche. Les parrains doivent donner à l'appui de chaque candidature les raisons de leur recommandation ainsi que le curriculum vitae du candidat. Les noms des candidats doivent être donnés au secrétaire général-trésorier avant le 15 février pour permettre au Conseil et au comité des créances du Collège, de les examiner en mars.

Veillez adresser toute correspondance sur cette question au: Dr J. E. Speck, Registrar-Secretary-Treasurer, The Royal College of Dentists of Canada, Suite 614, 170 St. George St., Toronto 5, Ont.

Le Collège royal annonce le résultat des examens

Le Collège royal des Chirurgiens-Dentistes du Canada a annoncé les noms des candidats qui ont réussi la Partie II (orale) des examens qui ont été tenus le 28 et 29 novembre 1968. Ils sont:

Endodontie: J. S. Smith et C. D. Torneck, de Toronto; et R. L. Tegart, d'Edmonton.

Chirurgie buccale: F. W. Lovely, de Halifax; et P. Mercier, de Montréal.

Prothèse dentaire: G. A. Zarb, de Toronto.

Les contributions mensuelles au FCED atteignent un nouveau plafond

Les dons des dentistes au Fonds canadien pour l'enseignement dentaire ont atteint un nouveau plafond en octobre dernier, d'après le président du FCED, le Dr J. D. McLean. Le Fonds a reçu, en 31 jours, un total de \$9,126, ce qui représente une augmentation de 257 pour-cent sur les contributions reçues l'année dernière, pendant la même période. Cette somme totalise les dons de 680 dentistes de toutes les régions du Canada, dont 432 nouveaux contributeurs.

A la fin novembre 1968, le Fonds avait

reçu plus de \$15,000 en contributions personnelles de près de 1,000 dentistes, soit plus du double du montant reçu en 1967 de la même provenance.

Chronique internationale

Le Dr Hillenbrand, directeur exécutif de l'ADA prendra sa retraite le 31 décembre

Le Dr Harold Hillenbrand, directeur exécutif de l'Association dentaire américaine depuis plus de 22 ans, abandonnera son poste le 31 décembre et c'est le Dr C. Gordon Watson de Californie qui lui succédera. Le Dr Hillenbrand entra au service de l'ADA comme rédacteur en 1942 et en devint le secrétaire, en 1946.

L'ADA demande des conférenciers et des cliniciens pour sa réunion annuelle de 1969

L'Association dentaire américaine a invité les dentistes canadiens à participer au programme scientifique de sa réunion annuelle qui, en 1969, aura lieu à New York. Cette réunion est organisée en conjonction avec la 57e assemblée annuelle de la Fédération dentaire internationale qui se tiendra du 12 au 16 octobre.

Vous pouvez demander des formulaires pour la présentation d'exposés et de démonstrations cliniques, de films et d'expositions scientifiques et éducatives au: Council on Scientific Session, American Dental Association, 211 East Chicago Ave., Chicago, Illinois 60611, USA. Les intéressés devront spécifier le domaine de leur participation. Le conseil ne pourra examiner que les demandes qui lui parviendront avant le 1er mars.

Les organisations dentaires

Le docteur Archambault succède au docteur Picard à la présidence du Collège

C'est le 22 octobre 1968 que le Dr Marcel Archambault de Montréal a été élu président du Collège des chirurgiens-dentistes

de la province de Québec. Il succède au Dr Lorenzo Picard de Sorel.

Le Dr H. L. Mussels, de Montréal, a été choisi premier vice-président. Le Dr Louis Bernier, de Québec, est le deuxième vice-président. Le Dr R. M. Leblanc, de Montréal, continue en tant que registraire-secrétaire.

Les autres membres du Conseil exécutif sont les docteurs Henri Brouillet, Roger Charette, Herbert Caplan, Roger Coulombe, Marius Crête, Claude de Grandmont, G. M. Dundass et C. E. Gosselin.

Une nouvelle loi pour les dentistes de Terre-Neuve

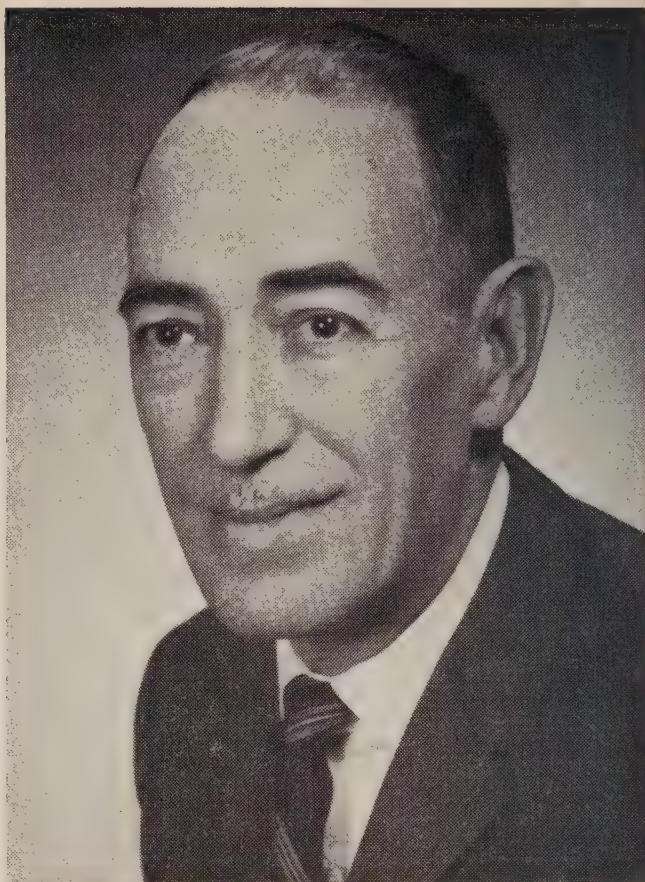
La nouvelle législation, adoptée le 23 mai 1968, donne aux dentistes de Terre-Neuve plus de responsabilités dans l'octroi des permis d'exercer. Aux termes de la loi, l'Association dentaire de Terre-Neuve remplace l'ancienne Société dentaire de Terre-Neuve et le Bureau dentaire terreneuvien remplace l'ancien Bureau dentaire de Terre-Neuve. Le nouveau bureau dentaire se compose de quatre dentistes agréés, élus par l'Association dentaire de Terre-Neuve. Le sous-ministre de la santé est aussi membre ex-officio du bureau. La loi prévoit également l'autorisation temporaire d'exercer pour certaines catégories de dentistes étrangers employés par des agences provinciales.

Fluoration

Les avantages de la fluoration à Prince George, CB

A Prince George, en Colombie britannique, la carie dentaire chez les enfants a diminué de 61 pour-cent au cours des 12 dernières années, grâce à la fluoration, a déclaré le Dr H. J. Hann, conseiller dentaire régional de l'équipe de santé de l'intérieur nord de la Colombie britannique.

Chez les enfants de 12 à 14 ans, la perte et les caries des incisives supérieures ont diminué de 86 pour-cent. Chez les enfants de 6 à 8 on trouve 71.5 pour-cent de dents



Le Dr Marcel Archambault

intactes au lieu de 48.1 pour-cent pendant la période précédente.

Ces résultats, a dit le Dr Hann, contrastent de façon frappante avec les statistiques sur la santé dentaire des enfants de Quesnel et Dawson Creek. Ces deux localités ne fluorent pas encore leur eau.

La fluoration se répand au Nouveau-Brunswick

Vingt mille Canadiens de plus sont alimentés maintenant en eau fluorée, grâce à la mise en vigueur, récemment, de nouveaux programmes de fluoration au Nouveau-Brunswick. Aux bases militaires canadiennes, Chatham (5,000 habitants) et Gagetown (15,000 habitants) ont commencé à fluorer leur eau, en juin dernier.

Londres en faveur de la fluoration

Le Common Council de Londres a décidé, le 3 octobre, de demander au London Metropolitan Water Board de fluorer l'eau de la ville. Précédemment, en 1965 et en 1966, le Common Council avait refusé des

propositions en ce sens et la "Ville de Londres" était la seule des municipalités londoniennes à avoir refusé la fluoration. Le Metropolitan Water Board a demandé récemment une révision de tous les aspects de la fluoration et votera, cette année, pour décider s'il y a lieu d'ajouter du fluor à l'eau qu'il fournit.

Popularité croissante de la fluoration aux Etats-Unis

Aux Etats-Unis, environ 8 adultes sur 10 qui ont entendu parler de la fluoration ou ont lu des articles à ce sujet, considèrent cette mesure avec bienveillance. Près de 6 sur 10 pensent que ce sont les autorités dans le domaine de la santé, les services de santé de localités concernées par exemple, qui doivent se prononcer sur le bien fondé de cette mesure.

C'est ce qu'indique une enquête conduite auprès de 1,482 adultes par le National Opinion Research Centre de l'Université de Chicago.

Quatre-vingt-deux millions d'Américains disposent maintenant d'eau fluorée, qu'il s'agisse d'eau fluorée naturellement ou d'eau à laquelle les municipalités ont ajouté du fluorure.

Economie

Les dentistes tchèques autorisés à passer un examen, en Ontario

Les dentistes tchèques, réfugiés au Canada, seront autorisés à pratiquer en Ontario s'ils réussissent, en mai, un examen préparé par le Royal College of Dental Surgeons. Cette décision s'applique aux dentistes qui auront présenté leur demande avant le 31 décembre de l'année dernière.

Si cette disposition n'avait pas été prise, ils auraient dû passer un examen éliminatoire en août et suivre ensuite, pendant deux ans, les cours d'une faculté dentaire avant d'être autorisés à pratiquer en Ontario.

Cette décision du RCDS place les dentistes tchèques dans la même catégorie que les détenteurs d'un DDS de certains pays du Commonwealth britannique et

d'Irlande ainsi que les diplômés des pays scandinaves. Les dentistes de ces pays n'ont besoin que de passer un examen d'habilitation en Ontario, alors que tous les autres doivent s'inscrire dans une faculté dentaire et obtenir un DDS.

L'Alberta adoptera peut-être le régime fédéral d'assurance-maladie (Medicare) en juillet

Le ministre de la santé de l'Alberta, le Dr J. Donovan Ross aurait annoncé que sa province considérerait l'adoption, en juillet, du régime fédéral d'assurance-maladie. Elle serait la cinquième à se joindre à ce programme.

Les journaux ont déclaré que l'Alberta était en train de modifier son programme provincial actuel pour le rendre conforme aux modalités du programme fédéral.

La Colombie britannique et la Saskatchewan participent déjà au programme fédéral et le Manitoba et la Nouvelle Ecosse ont annoncé leur intention de l'adopter le 1er avril.

Plus de soins dentaires aux Etats-Unis pour les enfants des économiquement faibles

Les Américains se préoccupent de plus en plus de fournir des soins dentaires aux enfants de famille à revenus modestes. Une enquête, entreprise au début de cette année par le National Opinion Research Centre de l'Université de Chicago, démontre bien l'intérêt croissant que le public américain porte aux soins dentaires.

Sur 1,482 adultes interrogés, 72 pour-cent ont déclaré qu'ils étaient en faveur, dans certains cas, de l'utilisation des fonds publics pour fournir des soins dentaires aux enfants. A peu près la moitié ont déclaré également que les enfants de famille à revenus modestes devraient recevoir, en priorité, de l'aide financière pour des soins dentaires.

D'après l'enquête du NORC, 40 pour-cent des américains adultes se sont rendus chez un dentiste l'année dernière. Avant 1930, moins de 25 pour-cent voyaient un dentiste dans le cours d'une année.

Le rôle de la Fédération dentaire internationale dans la collecte des renseignements à l'échelle mondiale



The role of the Fédération Dentaire Internationale in the collection of world-wide data

Through its member associations in 59 countries the Fédération Dentaire Internationale is in a unique position to collect information on dental conditions and professional attitudes throughout the world. Surveys on many aspects of dentistry are conducted through the FDI Secretariat which distributes English, French, German and Spanish questionnaires devised by its commission officers in various fields. Circulation of these questionnaires invariably necessitates a series of reminders and follow-ups, and translation of the replies obtained.

The first article in this series (J. Canad. Dent. Ass. 34:352, July 1968) pointed out that the Federation's programs are formulated by its seven standing commissions. We will now consider in more detail how some of these projects are initiated by the commissions and put into effect by the Secretariat.

Grâce à ses associations membres dans 59 pays, la Fédération dentaire internationale est dans la position unique de pouvoir réunir des renseignements dans le monde entier sur les conditions dentaires et les attitudes professionnelles. Le secrétariat de la FDI a entrepris des enquêtes sur divers aspects de la dentisterie en distribuant des questionnaires, en anglais, français, allemand et espagnol, conçus par les membres de ses commissions spécialisées dans différents domaines. La distribution de ces questionnaires doit être invariablement suivie d'une série de rappels et de compléments. Il faut aussi traduire les réponses.

Le premier article de cette série (J. Ass. Dent. Canad. 34:352, juillet 1968) a mentionné que c'étaient les sept commissions permanentes de la Fédération qui établissaient ses programmes. Nous allons maintenant considérer plus en détail comment les commissions lancent certains de ces projets et comment le secrétariat les exécute.

L'année dernière (1968) la Fédération a entrepris simultanément six projets. Tous demandaient la réunion des renseignements en provenance du monde entier. L'un de ces projets était une enquête sur les spécialités dentaires. Cette enquête, lancée par la commission de la pratique dentaire et conduite au moyen d'un questionnaire envoyé aux associations membres, a reçu des réponses en provenance de 26 pays. La Fédération reçut nombre de renseignements intéressants sur la reconnaissance des spécialités dans ces différents pays. La réponse au questionnaire indiquait qui avait la responsabilité de cette reconnaissance, le gouvernement ou un autre organisme; quelles étaient les exigences du point de vue éducation pour la pratique spécialisée; qui déterminait ces exigences, le gouvernement ou un autre organisme; quel était le nombre de spécialistes dentaires autorisés à pratiquer dans chaque spécialité, dans le pays en question; et quelle était leur désignation

Last year (1968) no less than six projects were carried out simultaneously. They all required the collection of world-wide data. One of these projects was a survey of specialization in dentistry. This inquiry, initiated by the Commission on Dental Practice and conducted by means of a questionnaire sent to member associations, elicited replies from 26 countries. Much valuable information was received about the recognition of specialties in different countries. The replies indicated the government or other agency responsible for recognition; the educational requirements for specialized practice; the determination of these educational requirements by government or some other agency; the number of licensed dental specialists in each specialty in the country concerned; and their public designation. Opinions were sought from all national dental associations on these factors and on the relationship between specialist practitioners and other areas of practice.

At the 1968 annual session the Commissions on Dental Education, Dental Practice, and Public Dental Health Services sponsored a discussion on the need for more auxiliary dental personnel. Background data from 56 countries were prepared on four categories of auxiliaries — New Zealand type dental nurses, dental hygienists, chairside assistants, and other miscellaneous personnel. Dental laboratory technicians were excluded. Information was sought regarding the legal status, training and duties of employees in each category and their acceptance by the dental profession. The requested information was obtained in two ways. Data derived from a similar survey conducted in 1961 were returned to member associations with a request to update the information. A separate questionnaire was circulated to associations who did not reply to the earlier survey. Respondents were also asked to supply copies of curricula for educational courses provided for auxiliaries in each country.

In 1959 the Federation carried out its first survey on the status of fluoridation in various regions of the world. Data were secured from 68 territories. This information was revised in 1963 when individual letters were sent to 90 states and territories, of which 69 replied. The re-

public; on a demandé aussi aux associations dentaires leurs opinions sur ces questions et sur la relation qui existe entre les spécialités et les autres domaines de pratique.

A la réunion annuelle de 1968, les commissions de l'enseignement dentaire, de la pratique dentaire et des services de santé publique dentaire ont organisé une discussion sur le besoin qu'il y a d'augmenter le personnel auxiliaire. On a réuni des renseignements sur quatre catégories d'aides dans 56 pays: les infirmières dentaires (comme celles de la Nouvelle-Zélande), les hygiénistes dentaires, les aides pour les soins aux patients et autre personnel divers. On a exclu de la discussion les techniciens des laboratoires. On a cherché à obtenir des renseignements sur le statut légal, la formation et les responsabilités des employés dans chaque catégorie, et sur la façon dont la profession dentaire les accepte. On a obtenu ces renseignements de deux façons. La Fédération renvoya aux associations membres les données obtenues lors d'une enquête similaire entreprise en 1961, en leur demandant de les mettre à jour. Elle envoya aussi un questionnaire spécial aux associations qui n'avaient pas répondu à la première enquête. Elle pria également les associations de lui fournir le programme des cours établis pour la formation des aides dentaires dans leur pays.

En 1959, la Fédération entreprit sa première enquête sur le statut de la fluoruration dans les diverses régions du monde. Elle reçut des renseignements de 68 d'entre elles. Ces renseignements furent révisés en 1963, à la suite de l'envoi de lettres à 90 états et territoires dont 69 répondirent. Le rapport de cette enquête intitulé "La fluoruration dans le monde" fut publié en anglais, français et allemand, avec résumés en italien et en espagnol. Il donne des renseignements compilés sur les communautés et populations de 81 états et territoires qui sont alimentés en eau fluorée, naturellement ou artificiellement, ou qui envisagent la fluoruration artificielle. On ajouta des renseignements plus récents sur les différentes méthodes de fluoruration et sur les attitudes des gouvernements et des associations dentaires nationales, quant à l'adoption de la fluoruration.

sultant report, "Fluoridation Round the World," was published in English, French and German, with Italian and Spanish summaries. It gives tabulated information on communities and populations in 81 states and territories who are served by naturally or artificially fluoridated water or are contemplating artificial fluoridation. To this has been added more recent information about alternative methods of fluoridation and the attitudes of governments and national dental associations to the introduction of fluoridation.

The Federation has produced several policy statements on matters related to dentistry. These resulted from its investigations into international conditions. Last year, when the FDI reaffirmed its position in relation to the International Federation of Dental Technicians, the Secretariat recirculated three FDI policy statements on dental technicians issued in 1957, 1960 and 1964 and asked member associations to confirm the adoption of these policies. At the same time information was also sought on training courses for dental technicians, legislation which restrains dental technicians from providing direct prosthetic services to the public, and the implementation of measures designed to improve the educational and economic position of the dental technician.

There are numerous other examples of how member associations provide the Federation with information which serves as a basis for more detailed study. Numbered among these is the compilation of a directory of European research institutions with an appended list of research workers in alphabetical order, indexed according to their field of research. Another project giving information on dental health education organizations throughout the world will form the basis of the new Advisory Board on Dental Health Education sponsored by the Commission on Public Dental Health Services. The Federation is also identifying dental institutions in various countries which can participate in educational exchanges under the sponsorship of the Commission on Dental Education. The object of this exercise is to help teachers, research workers and, eventually, practitioners widen their knowledge through experi-

A la suite de ces enquêtes sur les conditions internationales, la Fédération a fait plusieurs déclarations de principe sur les questions relatives à la dentisterie. L'année dernière, lorsque la FDI a réaffirmé sa position par rapport à la Fédération internationale des techniciens dentaires, le secrétariat a fait circuler à nouveau copie des trois déclarations de principes de la FDI, concernant les techniciens dentaires. Ces déclarations avaient été publiées en 1957, 1960 et 1964. Elle demanda aux associations membres de confirmer l'adoption de ces principes. En même temps, la Fédération réunit des renseignements sur les cours de formation pour les techniciens dentaires, sur les lois qui empêchent les techniciens dentaires de fournir directement des prothèses au public et sur l'application des mesures destinées à améliorer les connaissances et la situation économique des techniciens dentaires.

On pourrait donner bien d'autres exemples de renseignements fournis par les associations membres, renseignements qui servent de base à des études plus détaillées. Citons entre autres, la compilation d'un répertoire des institutions de recherches européennes avec, en appendice, une liste des chercheurs, établie par ordre alphabétique et indexée d'après leur domaine de recherche. Une autre entreprise consiste à recueillir des renseignements sur les organismes qui s'occupent de l'éducation dans le domaine de la santé dentaire, dans le monde entier. Ces renseignements serviront au nouveau conseil consultatif sur l'éducation en santé dentaire, patronné par la commission chargée des services de santé publique dentaire. La Fédération dresse également la liste des institutions dentaires de différents pays qui sont susceptibles de participer à des échanges éducatifs, sous le patronage de la commission de l'enseignement dentaire. Ce projet a pour but d'aider les enseignants, les chercheurs et éventuellement les praticiens à élargir le champ de leurs connaissances en acquérant de l'expérience à l'étranger. Les facultés dentaires et les intéressés ont déjà reçu des questionnaires qui leur donneront une idée des opportunités existantes et des gens qui pourraient en profiter.

Peut-être que l'enquête la plus détaillée, actuellement en cours, est celle qui traite

ence abroad. Questionnaires that have already been sent to dental schools and interested applicants will give a picture of the opportunities and the people who could use them to advantage.

Perhaps the most detailed survey currently in progress is concerned with basic facts about dentistry throughout the world. This project was instigated by the Commissions on Public Dental Health Services and Dental Practice. Advice on the type of information to be collected was received from B. Duane Moen, director of the Bureau of Economic Research and Statistics of the American Dental Association, and M. M. Chaves, former chief dental health officer at the World Health Organization. The survey covers dental manpower and training, licensure, the prevalence of dental diseases, private and public dental health services and fluoridation policies. Seven categories of professional and auxiliary personnel were defined in order to obtain comparable information on dental personnel. A questionnaire, devised under the guidance of the commission officers, was circulated to 93 national dental associations. Three reminders were sent during the 18 months spent on the initial survey, and by last August 45 member and seven non-member associations had responded. The replies were analysed and recorded on Basic Fact Sheets for 52 countries. Henceforth, these data will be revised annually. Expanded information on certain sections of the questionnaire, primarily dental health services, will also be obtained in the future. This example of the scope of the Federation's work has already yielded invaluable comparative international data which are otherwise unobtainable.

des données fondamentales de la dentisterie dans le monde. Ce projet a été lancé par les commissions des services de santé publique dentaire et des pratiques dentaires. M. B. Duane Moen, directeur du bureau de la recherche économique et des statistiques de l'American Dental Association et M. M. Chaves, ancien responsable de la santé dentaire à l'Organisation mondiale de la santé ont indiqué quel genre de renseignements réunir. L'enquête couvre la main-d'œuvre dentaire et la formation, l'autorisation d'exercer, la fréquence des maladies dentaires, les services de santé dentaire publics et privés ainsi que les principes régissant la fluoruration. On a établi sept catégories de personnel professionnel et auxiliaire afin d'obtenir des renseignements comparables sur le personnel dentaire. On a envoyé à 93 associations dentaires nationales un questionnaire conçu d'après les indications données par les membres de la commission ainsi que trois rappels durant les 18 mois qu'a duré l'enquête initiale. En août dernier, 45 associations membres et sept associations non-membres avaient répondu. On analysa ces réponses qui furent enregistrées sur des fiches de renseignements fondamentaux pour 52 pays. A l'avenir, ces renseignements seront revus tous les ans. On obtiendra également des renseignements plus complets sur certaines sections du questionnaire, surtout en ce qui concerne les services de santé dentaire. Ceci illustre l'étendue du travail de la Fédération qui a déjà fourni des données internationales comparées, d'une grande utilité. Ces informations n'auraient sans doute jamais pu être obtenues autrement.

G. H. Leatherman

Punch shear strengths of zinc phosphate cement and calcium hydroxide mixtures

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Calcium hydroxide may be used with or without an overlay of zinc phosphate cement to cap a pulp exposure. The two materials were tested to ascertain whether a calcium hydroxide base alone or a layered sandwich of calcium hydroxide and zinc phosphate cement is more resistant to the forces caused by condensation of silver amalgam. Both materials attained their maximum punch shear strength within 15 minutes of mixing. Overlaying calcium hydroxide did not confer any advantage unless the zinc phosphate cement was supported by dentine. The distortion which occurs when zinc phosphate cement sets may diminish this advantage in the layered structure without dentine support.

L'hydroxyde de calcium peut s'employer avec ou sans revêtement de ciment au phosphate de zinc pour protéger la pulpe à nu. On a essayé deux matériaux afin de déterminer si c'est la seule base d'hydroxyde de zinc qui résistent le mieux aux forces créées par la condensation de l'amalgame d'argent. Ces deux matériaux atteignirent leur maximum de résistance dans les 15 minutes qui suivirent leur préparation. Le fait de revêtir l'hydroxyde de calcium ne présentait aucun avantage, à moins que le ciment au phosphate de zinc n'ait été renforcé par de la dentine. La distortion qui se produit lorsque le ciment au phosphate de zinc se solidifie peut diminuer cet avantage lorsque les couches sont superposées sans être renforcées avec de la dentine.

Zinc phosphate cement is used as a base or lining under metallic restorations. The cement serves as a thermal insulator and is supposed to support the restoration in the same fashion as dentine lost through caries. During insertion of silver amalgam, zinc phosphate cement is supposed

to resist the forces caused by condensation of silver amalgam. Calcium hydroxide mixtures, on the other hand, are used as a therapeutic agent for pulps and as a protective layer or base beneath the possibly irritative zinc phosphate. The calcium hydroxide can be used with or

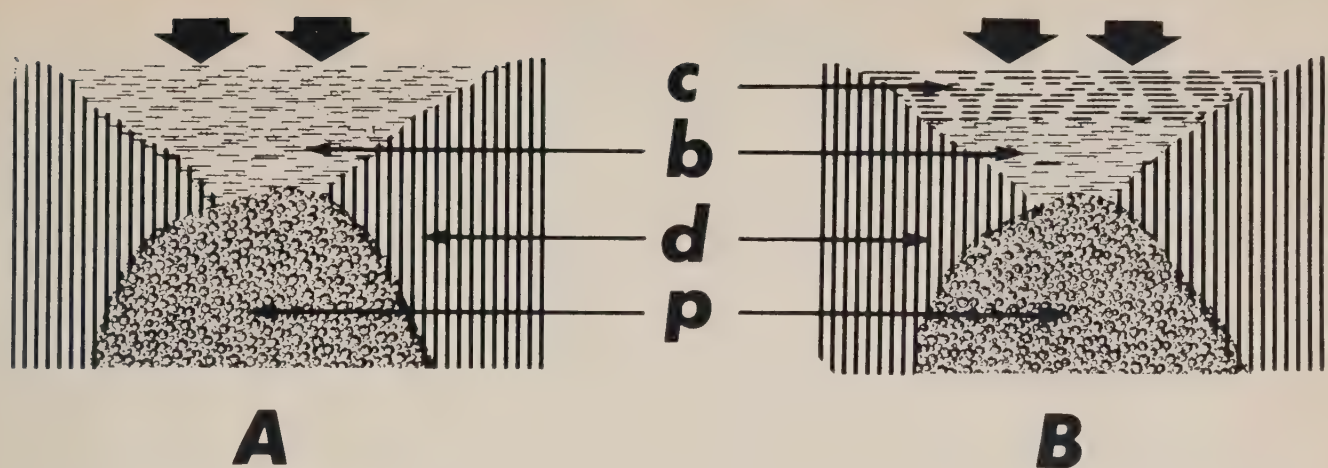


FIGURE 1 A pulp exposure (p) can be capped with calcium hydroxide base (b). The base may replace dentine (d) lost through caries, as in (A). The base may be overlaid with zinc phosphate cement (c), as shown in (B). The multi-layered structure (B) was no more resistant to the forces of condensation (represented by vertical arrows) than in the single layer in (A).

without an overlay of zinc phosphate cement. Calcium hydroxide may be used to cap a pulp exposure, but subsequent procedures should not disturb the material or force it through the exposure.

This raises two questions. Should a calcium hydroxide base be covered by zinc phosphate cement? If a pulp exposure is present, will overlying zinc phosphate cement prevent intrusion of the calcium hydroxide base?

Chong et al,¹ who performed compressive tests on zinc phosphate and calcium hydroxide mixtures, found that after seven minutes the two substances had similar compressive strengths, namely 1,100 psi. Calcium hydroxide reached its maximum compressive strength by this time and was not significantly stronger after 30 minutes or 24 hours. The compressive strength of zinc phosphate cement increased considerably, however. It reached 13,000 psi after 30 minutes and approached a maximum of 16,900 psi after 24 hours. Delaney et al,² who sectioned teeth bearing calcium hydroxide bases without an overlay of zinc phosphate cement, showed that the base was neither displaced nor fractured by condensation of amalgam seven minutes after the calcium hydroxide was placed.

The punch shear test,^{3,4} used on layered structures, duplicates in stress application the clinical condition of protective layers over a hole (Figure 1). Punch shear tests were therefore performed on zinc phosphate cement, calcium hydrox-

ide mixtures and a layered structure of zinc phosphate cement on calcium hydroxide after various time intervals.

MATERIALS AND METHODS

Discs about 2 mm. thick were prepared by compressing test materials between glass sheets using glass slide spacers of known thickness. Typical calcium hydroxide preparations (Caulk Dycal, Kerr Hydrex and Cavitec) were used, and equal lengths of base and catalyst were mixed for 15 seconds. Zinc phosphate cement (New Improved Zinc Cement, S. S. White Company) was mixed in proportions of 1.4 Gm. of powder to 0.4 ml. liquid for one minute. The time intervals began at the completion of mixing. Samples were tested at seven minutes, 15 minutes, 30 minutes and seven days. Sandwiches or layered structures of zinc phosphate cement upon calcium hydroxide base, each layer 1 mm. thick, were tested at seven minutes.

Two of the calcium hydroxide bases (Hydrex, Cavitec) were found to set very slowly under glass. The manufacturer's instructions indicated that the rate of set was affected by moisture and temperature. These materials were therefore mixed and placed immediately in or over water at 37°C. The glass sheets compressing the material were kept under pressure.

Punch shear tests^{3,4} were performed

on each specimen using a Hounsfield Tensometer and a pin 3.17 mm. in diameter. The rate of strain application was 0.06 cm. per minute.

The punch shear test has limited application except when the response of materials is compared or when the conditions of use of materials are similar in configuration to a punch penetrating a material. The stress induced in a sheet of material by the punch shear test is neither 'pure' shear nor a simple combination of tensile, shear and compressive stresses. The test was chosen for these lining materials because the comparison of single or multiple layers is possible and because the forces in the test resemble those induced in a layer of resistant lining over a pulp exposure.

RESULTS

Analyses of variance were completed on various sets of experiments. Confidence intervals were calculated from the residual or experimental variation. The means, intervals and number of specimens are shown in Tables 1 and 2.

In Table 1, only the variation between the materials was significant (F ratio 49, 1 per cent level of significance). Thus the values for shear stress of the zinc phosphate and calcium hydroxide samples at 15 minutes and seven days were similar. The difference between the forms of calcium hydroxide mixtures was insignificant in comparison to the difference between any calcium hydroxide mixture and zinc phosphate cement. The forms of calcium hydroxide mixtures were not therefore considered separately. Table 2

presents the shear stress at failure after seven minutes for the two materials and for a sandwich construction. In the sandwich the pin penetrated the zinc phosphate cement, and the cement layer was supported underneath by the calcium hydroxide. Again, the difference between materials is significant (1 per cent level of significance). Table 3 presents the means with 95 per cent confidence intervals (calculated from the mean square residual and the appropriate student 't' value).

TABLE 1 Analysis of variance. Load at failure (Kg.) of calcium hydroxide and zinc phosphate cement 15 minutes and seven days after mixing.

Source of variation	d.f.	Mean square	F ratio
Materials	1	5,870	49*
Days	1	341	2.9
Materials and days	1	159	1.3
Residual	36	120	
Total	39		

*The variation between the materials is significant (F ratio 49, 1 per cent level of significance).

TABLE 2 Analysis of variance. Shear strengths (Kg./sq.cm.) of calcium hydroxide mixture, zinc phosphate, and sandwich structure of both materials seven minutes after mixing.

Source of variation	d.f.	Mean square	F ratio
Materials	2	7,336	29
Residual	27	254	
Total	29		

TABLE 3 Punch shear strength values (Kg./sq.cm.) of discs of materials 2 mm. thick. Bracketed numbers indicate specimens tested.

	Calcium hydroxide	Zinc phosphate	Calcium hydroxide and zinc phosphate
7 minutes	24 (10)	75 (10)	32 (10)
95% confidence limits	±10	±10	±10
15 minutes and 7 days	28.5 (20)	150 (20)	
95% confidence limits	±16	±16	

DISCUSSION

The calcium hydroxide mixture reached its maximum punch shear strength after seven minutes. Zinc phosphate approached its maximum strength after 15 minutes. Overlaying of calcium hydroxide with zinc phosphate cement did not significantly raise the punch shear strength of the assembly beyond that of calcium hydroxide alone at seven minutes.

We cannot expect greater resistance from a layered structure since the sandwich is no stronger than the calcium hydroxide alone.

We observed differences between several calcium hydroxide mixtures. The setting of Hydrex and Cavitec seemed to depend on a rise in temperature and the absorption of water. Values for punch shear strengths of these materials under a variety of conditions did not exceed 20 Kg./sq.cm. The surface layer had set a half hour after these materials were mixed, but the centre of the mass was still soft. Thin sections (less than 0.25 mm.) of these materials may, however, harden more readily.

Zinc phosphate cement in contact with dentine about the edges of the cement layer may gain some support therefrom (Figure 1). Zinc phosphate upon dentine may thus provide greater resistance than calcium hydroxide upon dentine. However, we also observed that flat discs of zinc phosphate cement are produced with difficulty. The shrinkage upon setting is so pronounced that the disc becomes distorted unless it is restrained. This phenomenon contributed to the variation in our test values and diminished the usefulness of zinc phosphate cement. We believe that zinc phosphate cement in the tooth may actually become detached from the dentine and can push an underlying base into exposures when amalgam or other materials are pressed into place above the cement lining.

In our opinion the use of zinc phosphate cement over calcium hydroxide bases is unwarranted except perhaps when it is mainly supported by dentine. A stronger calcium hydroxide or similar therapeutic base used alone is satisfactory because fewer operations are required to restore the tooth.

CONCLUSIONS

Punch shear tests upon calcium hydroxide mixtures and zinc phosphate cement showed that both materials attained their maximum strength within 15 minutes of mixing. Seven minutes after mixing the calcium hydroxide had a punch shear strength of 24 Kg./sq.cm. (± 10 , 95 per cent confidence intervals); zinc phosphate had a strength of 75 Kg./sq.cm. (± 10 , 95 per cent confidence intervals); and a layered structure of the two materials had a strength of 32 Kg./sq.cm. This indicates that overlaying the calcium hydroxide with zinc phosphate cement does not markedly increase the strength of the structure.

Overlaying does not confer any advantage unless the zinc phosphate is supported by dentine. The distortion of zinc phosphate cement on setting may diminish this advantage in the layered structure with peripheral dentine support.

This report resulted in part from a student project conducted in the Departments of Oral Biology and Restorative Dentistry, Faculty of Dentistry, University of British Columbia.

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Irritational properties of root canal medicaments

Eight commonly used endodontic medicaments demonstrated an irritation potential when instilled into dogs' eyes and injected subcutaneously in guinea pigs. Beechwood creosote, camphorated parachlorophenol, ethylenediaminetetraacetic acid, Zonite and N₂ gave rise to severe inflammation in guinea pig subcutaneous connective tissue. Sulphathiazole, hydrogen peroxide and chloramine-T provoked a mild inflammatory reaction in the same tissue. Endodontic drugs should be used with great care to minimize their extra-dental effect beyond the apical foramen.

Huit des médicaments endodontiques communément utilisés ont démontré des propriétés irritantes lorsqu'on les a fait pénétrer dans des yeux de chiens et lorsqu'on les a injectés sous la peau chez des cobayes. La créosote de hêtre, le parachlorophenol camphré, l'acide éthylenediaminetetraacétique, le zonite et le N₂ causèrent de graves inflammations aux tissus conjonctifs sous-cutanés des cobayes. Le sulphathiazole, l'eau oxygénée, la chloramine T provoquèrent une légère inflammation des mêmes tissus. Il faut utiliser les médicaments endodontiques avec beaucoup de prudence pour minimiser leurs effets au-delà du foramen apical.

Throughout recorded history dentists have used various drugs and methods for treating diseased pulps. As early as 1864 investigators recognized that some of the disinfectant drugs used in root canal therapy irritate the periapical tissues.¹ The tendency at that time was to use the most powerful drugs for destroying the micro-organisms within the root canal. Little attention was given to the effect produced in the surrounding periapical tissues.

Endodontic disinfectants should be germicidal and fungicidal and should be non-irritating to host tissues.² The first factor has been thoroughly investigated,³⁻⁹ but the irritant potential of the drugs themselves has received relatively little attention.¹⁰

We investigated the inflammatory potential of eight drugs used in endodontic therapy. The results may induce a more rational concern for the patient and minimize the abuse of such medicaments.

EXPERIMENTAL PROCEDURE

The drugs tested were hydrogen peroxide 3 per cent (Fisher Scientific Company, Fair Lawn, NJ), chloramine-T [134.4 Gm. chloramine, 26 Gm. sodium chloride and 3,300 ml. water], Zonite [containing chlorinated soda] (Dunbar Division, Chemway Canada Ltd, Ste. Thérèse, Que.), Ostby's ethylenediaminetetraacetic acid [EDTA] (Faculty of Pharmacy, University of Alberta), beechwood creosote (Faculty of Pharmacy, University of Alberta), camphorated parachlorophenol (Star Dental Manufacturing Company, Philadelphia, Pennsylvania), N₂ root canal dressing [containing paraformaldehyde] (Central Dental Company, Toronto, Ont.) and sulphathiazole (Eli Lilly and Company Ltd., Toronto). Distilled water was used as a control. Two tests were performed to determine the inflammatory potential of these drugs: (a) the eye test and (b) injection of the test drug into the subcutaneous connective tissue. Dogs' eyes were used for the first experiment and guinea pigs' abdomens for the second.

Eye Test: The eye, being extremely sensitive to irritants, serves as a screening method to study the quality of drugs.^{11,12} The dogs were anaesthetized by intravenous injection of sodium pentobarbital (Nembutal). The drug dose was calculated at 10 mg. per pound body weight. One drop of each drug was introduced into the conjunctival sac. The eyelids were closed for one minute to keep the test drug inside the eye. The eyes

were photographed four times: before placing the medicaments, and five minutes, 24 hours and five days after the drugs were applied.

Connective Tissue Test: Two guinea pigs were used as experimental animals. The animals were anaesthetized with ether and the abdomens were shaved with electric shears. The abdominal skin was divided into separate sections and 0.2 ml. of the experimental drugs were subcutaneously injected, each in a separate section. Distilled water was injected in each animal as a control. Careful gross observations were made at the end of five days immediately before sacrificing the animals with an overdose of sodium pentobarbital.

The skin and the underlying connective tissue at the injection areas were excised and immediately transferred to a 10 per cent formalin solution for fixation. The specimens were processed for histological study and the sections were stained with haematoxylin and eosin. The inflammatory response of the connective tissue to the injected materials was evaluated microscopically.

RESULTS

Eye Test: Evaluation was based on redness of the conjunctiva, oedema of the eyelids and conjunctiva, clouding of the cornea and exudate oozing from the eye. Table 1 summarizes the results.

Figure 1 demonstrates the reaction of

TABLE 1 Inflammatory response of dogs' conjunctival sacs to eight endodontic drugs.

Drug	Reaction at specified intervals after administration		
	5 minutes	24 hours	5 days
Beechwood creosote	severe	severe*	severe
Camphorated parachlorophenol	severe	severe*	severe
H ₂ O ₂ 3%	severe	severe*	severe
Zonite	severe	severe	severe
N ₂	moderate	moderate	severe
EDTA	mild	moderate	mild
Chloramine-T	mild	mild	mild
Sulphathiazole	none	none	none

*With oedema of the conjunctiva.



FIGURE 2 Guinea pig abdomen at the end of the five day experimental period. The injected agents were (1) distilled water, (2) hydrogen peroxide, (3) Zonite, (4) sulphathiazole, (5) camphorated parachlorophenol and (6) EDTA.

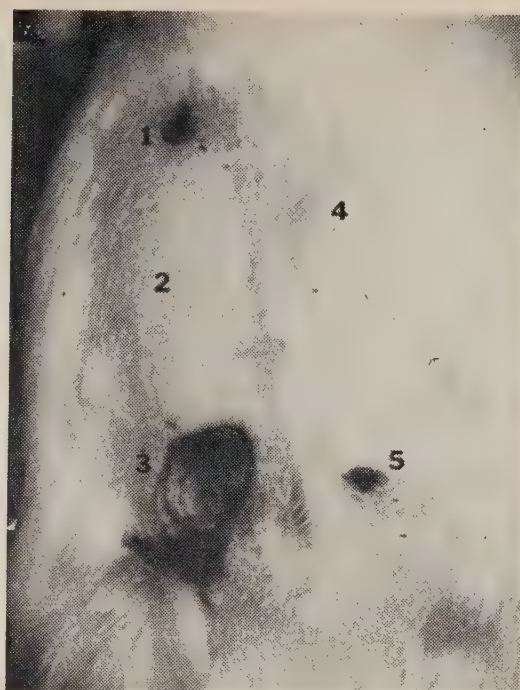


FIGURE 3 Guinea pig abdomen at the end of the five day experimental period. The injected agents were (1) chloramine-T, (2) distilled water, (3) beechwood creosote, (4) N_2 and (5) EDTA.

fied as severe, mild or negative according to (1) the number of leucocytes infiltrated in the tissue, (2) necrosis of the tissue, (3) enlargement of blood vessels, (4) abscess formation, and (5) ulceration of the tissue. The various tissue reactions are presented in Figures 4-12.

DISCUSSION

The techniques adopted in this investigation were primarily designed to study the irritation potential of drugs commonly used in endodontics. The eye, being sensitive to injury, serves as an arbitrary index of the irritating properties of drugs or materials on the conjunctival sac-epithelium.¹⁰ The second phase of the study dealt with the connective tissue inflammatory reaction to the experimental drugs. Several investigators used implants by which an incision was made through the skin and the implanted material was placed in the connective tissue.¹³⁻¹⁷ Torneck¹⁸ surgically implanted punctured polyethylene carpules as a carrier for test drugs. Surgical damage to

the tissue from the incision or from mechanical trauma by polyethylene carpules could, however, induce undesirable pathological tissue change. Direct injection of the medicaments into the connective tissue eliminates this possibility.

All the drugs tested in this study caused pathological changes. The intensity of the reaction varied with the different medicaments. This difference may have been influenced by (1) the types and concentrations of drugs employed,

TABLE 2 Microscopic reaction five days after injection of 0.2 ml. of eight endodontic test drugs in guinea pigs' abdominal subcutaneous connective tissue.

Reaction	Drug
Severe inflammation	Beechwood creosote Camphorated para-chlorophenol EDTA Zonite N_2
Mild inflammation	Sulphathiazole Hydrogen peroxide Chloramine-T
No inflammation	Distilled water

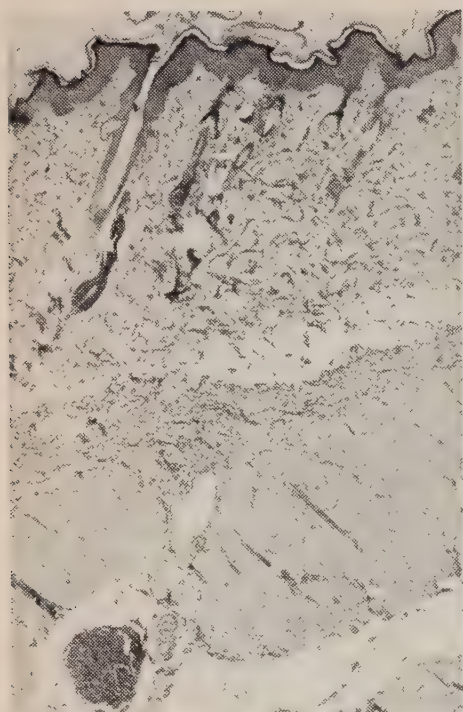


FIGURE 4 Photomicrograph of guinea pig abdominal skin and connective tissue injected with distilled water. No pathological reaction is evident. H.E. x 40.



FIGURE 5 Photomicrograph of guinea pig abdominal skin and connective tissue. Five days earlier sulphathiazole was injected subcutaneously. A few inflammatory cells (A) are present in the connective tissue. H.E. x 40.

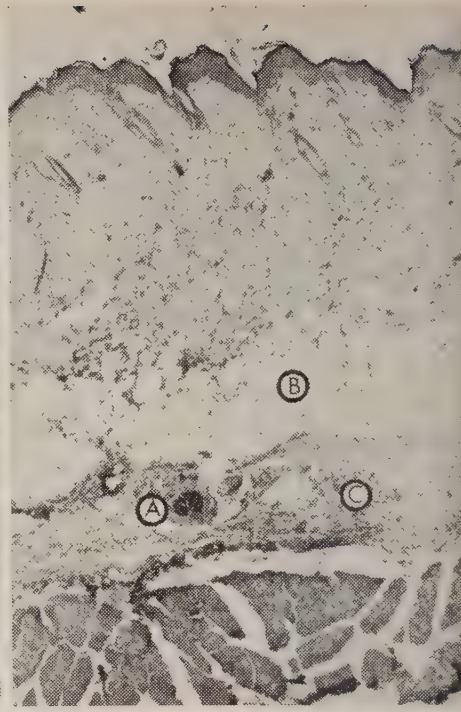


FIGURE 6 Photomicrograph of guinea pig abdominal skin and connective tissue. Three per cent hydrogen peroxide was injected subcutaneously five days earlier. Note enlargement of blood vessels (A), necrosis of fat cell layer (B) and presence of inflammatory cells (C) in the connective tissue. H.E. x 40.

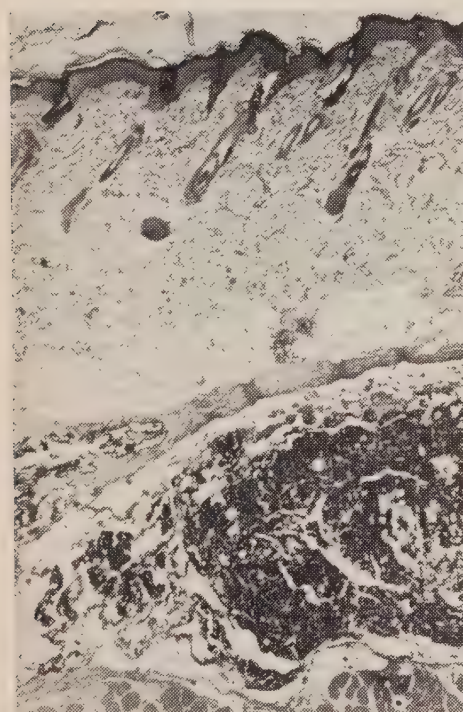


FIGURE 7 Photomicrograph of guinea pig abdominal skin and connective tissue. N₂ was injected subcutaneously five days earlier. There is cystic cavity (A) surrounded by a fibrous tissue capsule. The adjacent muscle layer is necrotic. H.E. x 40.



FIGURE 8 Photomicrograph of guinea pig abdominal skin and connective tissue. Zonite was injected subcutaneously five days earlier. Note inflammatory cells (A) in the connective tissue, degeneration of the fat cell layer (B) and large cystic space (C). H.E. x 40.

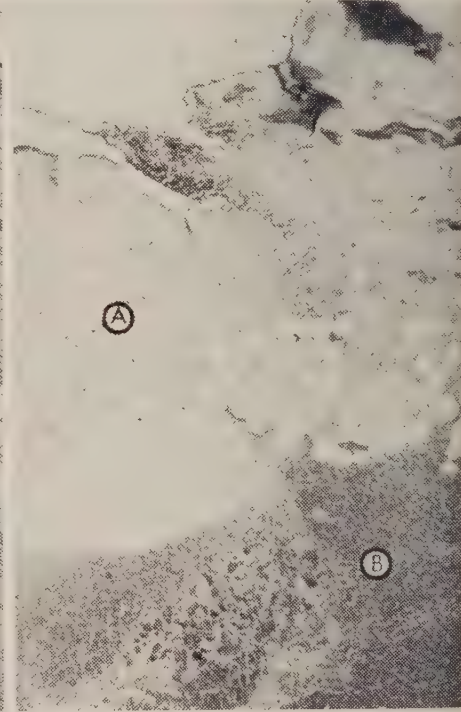


FIGURE 9 Photomicrograph of guinea pig abdominal skin and connective tissue. EDTA was injected subcutaneously five days earlier. Note tissue necrosis (A) and large haematoma (B). H.E. x 40.



FIGURE 10 Photomicrograph of guinea pig abdominal skin and connective tissue. Chloramine-T was injected subcutaneously five days earlier. Note the few inflammatory cells (A) and enlargement of the blood vessels (B). H.E. x 40.



FIGURE 11 Photomicrograph of guinea pig abdominal skin and connective tissue. Camphorated parachlorophenol was injected subcutaneously five days earlier. Note necrosis of the epithelium, underlying connective tissue and fat cell layer (A). Inflammatory cells (B) are present adjacent to the necrotic tissue. H.E. x 40.

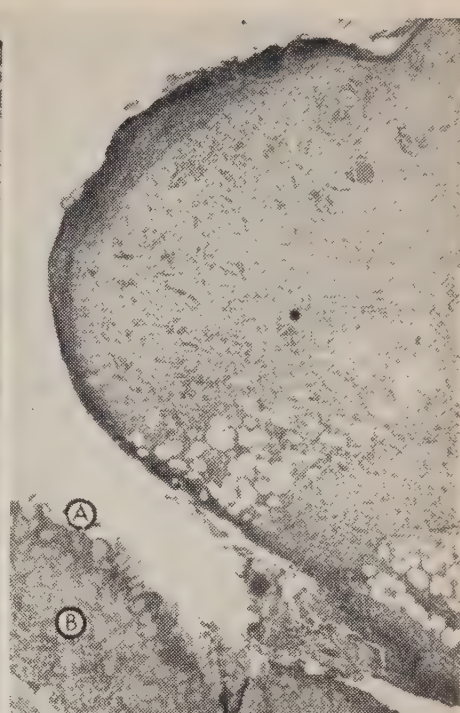


FIGURE 12 Photomicrograph of guinea pig abdominal skin and connective tissue. Beechwood creosote was injected subcutaneously five days earlier. There is an ulcer (A) with loss of epithelium and underlying connective tissue. Inflammatory cells (B) are present in the necrotic fat cell layer. H.E. x 40.

and (2) the two test methods. A histological study is more accurate than a clinical study. Sulphathiazole did not induce any clinically perceptible changes, but on a microscopic level it caused an inflammatory response in connective tissue.

The use of topical drugs during root canal treatment has been considered an essential part of endodontic procedure. The canal is irrigated during mechanical preparation with a sodium hypochlorite solution, sometimes followed by hydrogen peroxide. Medicaments, such as camphorated parachlorophenol, N_2 or beechwood creosote, are sealed into the canal between appointments. EDTA or other chelating agents are sometimes used to aid in enlarging narrow or blocked canals. Eugenol or similar obtundents have been sealed into canals to gain painless access where some sensitive pulp remnants remain. These drugs and others used for similar purposes have proved, in this paper and others, to be irritating.

A principal objective of endodontic treatment is to induce conditions which

enhance the repair of periapical tissues by the natural body defences. This is achieved by removing the cause of the irritation and avoiding the misuse of strong chemicals or unsound techniques which diminish the healing potential. When we speak of disinfection, we must consider not only the nature of the infection and the resistance of the host but also the properties of the disinfectant and its effect on the micro-organisms and the tissues. Investigators have suggested the following requirements for an ideal root canal medicament:^{2,19,20} it must effectively destroy micro-organisms without irritating healthy tissue. A medicament that combines these qualities is at present not known. Disinfection is a double-edged sword because its toxic effect on the micro-organisms is often matched by a similar effect on the host.²¹ Matsumiya and Kitamura²² summarized the position in these words: "It is impossible for any known drug to achieve complete sterilization of the interior of the root canal, when it is used exclusively." They might

have added that such drugs irritate healthy tissue and interfere with the tissue repair mechanism.

Some practitioners conceivably use certain drugs for endodontic treatment simply because they are available or because of the manufacturer's claims or a colleague's enthusiasm. It is far more important to adhere to a sound technique, including sufficient preparation and cleansing of the canal and the placement of a good filling material which promotes the healing of the periapical tissue. The role of drugs in this context is at best a supplemental one. In view of their irritating properties, such drugs should be used with caution.

SUMMARY

The inflammatory potential of eight endodontic medicaments was investigated. The drugs tested were hydrogen peroxide 3 per cent, chloramine-T, Zonite, EDTA, beechwood creosote, camphorated para-chlorophenol, N_2 and sulphathiazole. Distilled water was used as the control.

One drop of the test medicaments was placed in dogs' conjunctival sacs. Observations were made after five minutes, 24 hours and five days. A quantity (0.2 ml.) of each test drug was also injected in the subcutaneous tissue of guinea pigs' abdomens. Gross observations were made after five days immediately before sacrificing the animals. The tissues at the injection sites were excised and examined microscopically.

The eye test and the abdominal macroscopic observations show that seven of the drugs cause varying degrees of damage. Sulphathiazole and distilled water cause no clinically perceptible damage. Microscopically, all the test drugs caused pathological changes in the tissue.

When treating infected root canals, strong medicaments should be used with prudence to minimize their extra-dental effect beyond the apical foramen.

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7 Parkdale Crescent

Factors that influence the success of endodontic treatment

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Controversy over the relative significance of factors that affect the outcome of endodontic therapy prompted this report of a one year follow-up of 158 teeth which received endodontic treatment at the University of Toronto's Faculty of Dentistry. Factors which enhanced the prognosis of endodontic treatment include conservative management of vital teeth, surgical management of teeth with large or well demarcated periapical lesions, vital pulpectomy, and apical position of the filling material. The patient's age and health, pre-operative medication, accessory root canals, the location of the treated tooth, the aetiology of pulp disease, and the subsequent function of the treated tooth appeared to have little influence on the success of endodontic therapy.

La valeur relative des facteurs qui affectent le résultat de la thérapeutique endodontique a été beaucoup débattue, d'où, cette étude d'un an, portant sur 158 dents qui ont subi un traitement endodontique à la Faculté dentaire de l'Université de Toronto. Les facteurs qui favorisent le succès du traitement endodontique comprennent: la conservation de la vitalité pulpaire, le traitement chirurgical de dents atteintes de lésions périapicales importantes ou bien délimitées, la pulpectomie vitale et la position apicale du matériau d'obturation. L'âge et la santé du patient, la médication pré-opératoire, les canaux radiculaires accessoires, l'emplacement de la dent traitée, l'étiologie de la maladie de la pulpe et l'emploi subséquent de la dent traitée semblent n'avoir que peu de rapport avec le succès de la thérapeutique endodontique.

The objective of this study was to determine the effect of certain factors and methods of treatment believed to influence the success or failure of endodontic treatment.

MATERIALS AND METHOD

Endodontic treatment of 158 teeth, in 142 patients, was rendered by undergraduate students of the Faculty of Dentistry, University of Toronto. The tissues involved were radiographed 11-14 months following treatment. Data were obtained from case history charts; by interpretation of pre-treatment, post-treatment and recall examination radiographs; and from microbiology records of a limited number of the cases. This information was record-

ed on punched cards and tabulated by IBM computer under the following categories:

1. Systemic condition at time of treatment: (a) no known systemic disease; (b) known systemic disease — either inactive or controlled by medication; (c) known active systemic disease.

2. Clinical and radiographic status of pulpal and periapical tissues immediately prior to treatment: (a) vital pulp tissue with or without periapical rarefaction; (b) non-vital root canal with no evident periapical involvement or periapical rarefaction less than 5 mm. at its widest discernible measurement; (c) non-vital root canal with periapical rarefaction 5-10 mm. at its widest discernible measurement; (d) non-vital root canal with periapical rarefaction exceeding 10 mm. in any direction.

3. Radiographic appearance of the borders of a pre-operative periapical area of rarefaction: (a) sharp well-defined borders suggestive of cyst formation; (b) diffuse, ill-defined borders.

4. Radiographic appearance when laterally condensed gutta percha and root canal sealer were employed to obliterate the root canal: (a) root canal overfilled and excess gutta percha extruded into the periapical tissues; (b) root canal overfilled and excess sealer, only, forced into the periapical tissues; (c) root canal filled flush with the radiographic apex of the root; (d) root canal filled 0.5-3.0 mm. short of the radiographic apex of the root; (e) root canal inadequately obliterated, apparently lacking an apical seal, with possible communication between intra-canal voids and the periodontic tissues.

5. Radiographic appearance when a silver point and root sealer were employed to obliterate the root canal: (a) root canal overfilled with silver point extending into the periapical tissues; (b) root canal overfilled and excess sealer, only, forced into the periapical tissues; (c) root canal filled flush with the radiographic apex of the root; (d) root canal filled 0.5-3.0 mm. short of the radiographic apex of the root; (e) root canal inadequately obliterated, apparently lacking an apical seal, with possible communication between intra-canal voids and the periodontic tissues.

6. Method of treatment: (a) non-surgical root canal therapy with various intra-canal medications; (b) surgical intervention with periapical curettage and/or root resection.

7. Number of appointments required to complete entire non-surgical treatment.

8. Post-treatment function of the endodontically treated tooth: (a) not involved with a prosthesis; (b) terminal abutment for a fixed or removable prosthesis; (c) non-terminal abutment.

9. Accessory canals: (a) not observed; (b) observed as obliterated; (c) observed but not obliterated.

10. Radiographic evidence of root resorption: (a) not observed; (b) internal, pre-operatively; (c) external, preoperatively; (d) external, postoperatively.

11. Success-failure distribution.

12. Classification of success or failure: (a) definite failure — radiographic interpretation of unaltered or enlarged periapical lesion; (b) probable failure — some bone regeneration, but a definite periapical lesion persisting; (c) probable success — bone trabeculae surrounding the root apex and any excess root canal filling material, but the lamina dura not distinct; (d) success — a distinct continuous lamina dura and complete periapical bone regeneration. This classification permits comparison with subsequent recall radiographs. For practical appraisal, however, (a) and (b) were considered failures while (c) and (d) were regarded as successful.

13. Resorption of excess root canal sealer: (a) no excess sealer visible following root canal obliteration; (b) resorption of excess sealer not apparent at recall examination; (c) resorption of excess sealer occurring; (d) excess sealer entirely resorbed.

14. Resorption of excess gutta percha: (a) no excess gutta percha visible following canal obliteration; (b) resorption of excess gutta percha not apparent at recall examination; (c) resorption of excess gutta percha occurring; (d) excess gutta percha entirely resorbed.

15. Pre-obliteration bacteriological culture tests of root canals previously recorded negative: (a) culture test of pulp chamber using sterile cotton pellet; (b) culture test of apical third of root canal using fine sterile paper point.

16. Aetiology and sequelae of pulp disease: (a) carious exposure; (b) operative exposure; (c) silicate filling; (d) silver amalgam filling; (e) crown; (f) intentional extirpation of pulp for internal post-retention; (g) previously unsuccessful endodontic treatment; (h) re-treatment of partly filled, apparently successfully treated root canals for restorative purposes; (i) incorrect diagnosis due to misinterpretation of radiographs.

17. Effect of age.

RESULTS

The results of the one year recall examination were subjected to statistical

TABLE 1 Effect of systemic condition on successful endodontic repair.

Systemic condition at time of treatment	Result of treatment*					Rate of success
	S	PS	PF	F	S/F	
Negative	111	9	12	7	120/19	86.3%
Positive, inactive or controlled	15	0	1	1	15/2	88.2%
Positive, active	2	0	0	0	2/0	100.0%

*S = success; PS = probable success; PF = probable failure; F = failure;
S/F = success-failure ratio.
 $X^2 = 0.3404$ d.f. = 5.99 $p > .05$
Results not statistically significant.

evaluation using the chi square method at the 5 per cent level.

1. *Systemic Condition.* — Although considered important, this factor did not appreciably influence the outcome of treatment (Table 1). Success was recorded in 120 (86.3 per cent) of 139 cases treated where systemic disease was reported negative at time of treatment. Fifteen (88.2 per cent) of 17 cases treated in the presence of inactive or controlled disease were considered successful. Only two patients reported active diseases and both were successfully treated. The differences are not statistically significant.

2. *Vital and Non-Vital Root Canals, With and Without Periapical Areas of Rarefaction.* — One year postoperative radiographs show the prognosis for successful

repair in non-vital teeth diminishes with progressively larger periapical areas of rarefaction (Table 2). Fifty-four (96.5 per cent) of 56 vital pulpectomies proved successful. In treatment of 40 non-vital teeth with periapical rarefaction less than 5 mm. diameter, 35 were considered successful for a success rate of 87.5 per cent. For non-vital teeth with 5-10 mm. periapical rarefaction, 29 (80.5 per cent) of 36 teeth were successfully treated. Only 19 (73.0 per cent) of 26 teeth with periapical rarefaction exceeding 10 mm. diameter were successfully treated. The differences are statistically significant.

3. *Pre-operative Radiographic Appearance of Borders of Periapical Lesions.* — At first glance, non-vital teeth with periapical lesions exhibiting diffuse ill-defined borders show a better recovery (58 [84 per cent] of 69 teeth responding suc-

TABLE 2 Healing in vital pulpectomy and in non-vital teeth with and without areas of periapical rarefaction.

Pre-operative status of pulp and periapical tissues	Result of treatment					Rate of success
	S	PS	PF	F	S/F	
Vital, no area	50	4	1	1	54/2	96.5%
Non-vital, area less than 5 mm.	33	2	3	2	35/5	87.5%
Non-vital, area 5-10 mm.	26	3	4	3	29/7	80.5%
Non-vital, area greater than 10 mm.	19	0	5	2	19/7	73.0%

$X^2 = 8.5244$ d.f. = 7.81 $p < .05$
Results statistically significant.

TABLE 3 Result of treatment in periapical lesions with well-defined borders or ill-defined borders.

Pre-operative periapical lesion	Result of treatment					Rate of success
	S	PS	PF	F	S/F	
Diffuse ill-defined borders	55	3	8	3	58/11	84.0%
Sharp well-defined borders	19	1	3	4	20/7	74.0%

$X^2 = 3.57$ d.f. = 3.84 $p > .05$
Results not statistically significant.

cessfully) than teeth with lesions exhibiting sharp, well-defined borders (20 [74 per cent] of 27 responding successfully) (Table 3). These figures are misleading in the light of further analysis based on method of treatment. Non-surgical treatment succeeded in 32 (86.5 per cent) of 37 cases with pre-operative ill-defined periapical lesions, while surgical treatment succeeded in 26 (81.3 per cent) of 32 such cases. Surgical treatment succeeded in 14 (77.7 per cent) of 18 cases with pre-operative well-defined lesions, while non-surgical treatment succeeded in only six (66.6 per cent) of nine such cases (Table 4). The results, while interesting, are not statistically significant.

4. *Gutta Percha*.—Laterally condensed gutta percha was used to obliterate 133 root canals (Table 5). Twenty (83.3 per cent) of 24 overfilled cases were success-

ful. Nine canals were overfilled with root canal sealer; eight (88.8 per cent) of these proved successful. Sixty-five canals were filled flush with the apex; 60 (92.3 per cent) of these succeeded. In this subdivision all 21 cases treated non-surgically were successful. A similar result prevailed in only 39 of 44 cases treated surgically; the other five cases had large pre-operative periapical areas of rarefaction which may have contributed to failure. All 33 teeth filled 0.5-3.0 mm. short of the apex responded successfully. All seven apparently inadequately obliterated canals failed. The differences between all five subdivisions are statistically significant. If subdivision (e) [inadequately obliterated canals] is excluded, the differences are no longer significant.

5. *Silver Points*.—Only 25 cases were treated with silver points (Table 6).

TABLE 4 Result of conservative or surgical treatment in pre-operative periapical lesion with well-defined borders or ill-defined borders.

Pre-operative periapical lesion	Method of treatment	Result of treatment					Rate of success
		S	PS	PF	F	S/F	
Diffuse ill-defined borders	conservative	29	3	3	2	32/5	86.5%
Diffuse ill-defined borders	surgical	26	0	5	1	26/6	81.3%
Sharp well-defined borders	surgical	14	0	2	2	14/4	77.7%
Sharp well-defined borders	conservative	5	1	1	2	6/3	66.6%

$X^2 = 2.0420$ d.f. = 7.81 $p > .05$
Results not statistically significant.

TABLE 5 Result of obliteration with laterally condensed gutta percha and with root canal sealer.

Laterally-condensed gutta percha	Result of treatment					Rate of success
	S	PS	PF	F	S/F	
Overfilled	11	9	4	0	20/4	83.3%
Excess sealer only	8	0	1	0	8/1	88.8%
Flush with apex	60	0	4	1	21/0	100.0%
					39/5	non-surgical 86.3% surgical
0.5-3mm. short of apex	33	0	0	0	33/0	100.0%
Inadequate	0	0	2	5	0/7	0

$X^2 = 56.1444$ d.f. = 9.49 $p < .05$
Results are statistically significant.

Twenty (80 per cent) of these were successful. However, only the group of 16 canals filled 0.5-3.0 mm. short of the apex was large enough to merit consideration; all of these appeared successful. Combined results for teeth filled with silver points or gutta percha (Table 7) show statistically significant differences between the five subdivisions (a) - (e). The differences are still significant when subdivision (e) [inadequately obliterated canals] is excluded. For gutta percha and silver points there is a statistically significant difference between flush-filled canals (89.7 per cent success) and canals filled 0.5-3.0 mm. short of the apex (100 per cent success).

6. *Method of Treatment.* — Superficially, there is no statistically significant difference between the overall success rate for non-surgical (89.5 per cent) and surgical treatment (82.6 per cent) (Table 8). But further analysis on the basis of pre-operative pulpal and periapical status again gives an entirely different picture (Table 9). The following results attended non-surgical therapy: success in 50 (96.1 per cent) of 52 vital pulpectomies; success in 27 (90 per cent) of 30 non-vital canals with periapical rarefaction less than 5.0 mm. diameter; success in 14 (77.7 per cent) of 18 non-vital canals with 5.0-10.0 mm. periapical areas of rarefaction; success in three (60.0 per cent) of five non-

TABLE 6 Result of obliteration with silver points and root canal sealer.

Silver Point	Result of treatment					Rate of success
	S	PS	PF	F	S/F	
Overfilled	0	0	0	1	0/1	0
Excess sealer only	0	0	0	0	—	—
Flush with apex	1	0	2	0	1/2	33.3%
0.5-3 mm. short of apex	15	1	0	0	16/0	100.0%
Inadequate	3	0	1	1	3/2	60.0%

$X^2 = 133.31$ d.f. = 7.81 $p < .05$
Results are statistically significant.

TABLE 7 Combined result of obliteration with silver points or gutta percha and root canal sealer.

Silver point or gutta percha	Result of treatment					Rate of success
	S	PS	PF	F	S/F	
Overfilled	11	9	4	1	20/5	80.0%
Excess sealer only	8	0	1	0	8/1	88.8%
Flush with apex	61	0	6	1	61/7	89.7%
0.5-3.mm. short of apex	48	1	0	0	49/0	100%
Inadequately obliterated	3	0	3	6	3/9	25%

$X^2 = 48.0925$ d.f. = 9.49 $p < .05$
Results are statistically significant.

TABLE 8 Result according to method of treatment.

Method	Result of treatment					Rate of success
	S	PS	PF	F	S/F	
Conservative	85	9	5	6	94/11	89.5%
Surgical	43	0	7	2	43/9	82.6%

$X^2 = 1.43$ d.f. = 3.84 $p > .05$
Results not statistically significant.

vital canals with periapical rarefaction exceeding 10.0 mm. — too few for statistical evaluation. A longer period of observation could alter these results since larger periapical areas of rarefaction require more time for complete bone regeneration than smaller ones.

Surgical treatment produced the following results (Table 10): Success in

three (60 per cent) of five vital teeth — again, too few for statistical evaluation; success in all eight cases of non-vital teeth with periapical areas of rarefaction less than 5 mm. diameter; success in 17 (85 per cent) of 20 non-vital root canals with 5-10 mm. periapical rarefaction; success in 15 (78.9 per cent) of 19 non-vital teeth with periapical rarefaction exceed-

TABLE 9 Result conservative of treatment.

Pre-operative status of pulp and periapical tissues	Result of treatment					Rate of success
	S	PS	PF	F	S/F	
Vital, no area	47	3	0	2	50/2	96.1%
Non-vital, area less than 5 mm. diameter	25	2	1	2	27/3	90.0%
Non-vital, area 5-10 mm. diameter	10	4	2	2	14/4	77.7%
Non-vital, area more than 10 mm. diameter	3	0	2	0	3/2	60.0%

$X^2 = 0.9743$ d.f. = 7.81 $p > .05$
Results not statistically significant.

TABLE 10 Result of surgical treatment.

Pre-operative status of pulp and periapical tissues	Result of treatment					Rate of success
	S	PS	PF	F	S/F	
Vital, no area	3	0	2	0	3/2	60.0%
Non-vital, area less than 5 mm. diameter	8	0	0	0	8/0	100.0%
Non-vital, area 5-10 mm. diameter	17	0	2	1	17/3	85.0%
Non-vital, area more than 10 mm. diameter	15	0	3	1	15/4	78.9%

$X^2 = 3.73$ d.f. = 7.81 $p > .05$
Results not statistically significant.

ing 10.0 mm. The differences are not statistically significant.

7. *Appointments Required to Complete Treatment.*—An average of 4.38 appointments were required for successful non-surgical treatment of 47 non-vital teeth with associated periapical lesions. Eight cases considered failures averaged 4.37 appointments.

8. *Post-Treatment Function.*—There were 142 endodontically treated teeth which did not support a prosthesis. Of these, 124 (87.3 per cent) were considered successful (Table 11). Treatment succeeded in 12 (85.7 per cent) of 14 teeth subsequently used as terminal abutments for fixed or removable prostheses. Treatment succeeded in one tooth which subsequently served as an internal abutment for a

fixed prosthesis. The differences are not statistically significant.

9. *Accessory Root Canals.*—Only six (3.8 per cent) cases of accessory root canals were observed in 158 treated teeth. Four of these proved successful (Table 12). Failure in the remaining cases was not attributed to extrusion of root canal sealer through the accessory canals. Treatment succeeded in 133 (87.5 per cent) of 152 teeth with no evident accessory canals. The difference is not statistically significant.

10. *Root Resorption.* — Internal root resorption was observed in three teeth only (Table 13). Treatment was successful in two instances; dentine resorption did not appear to contribute to failure in the third. There was no evidence of root perforation before or during treatment.

TABLE 11 Effect of post-treatment function of endodontically treated teeth on treatment result.

Function	Result of treatment					Rate of success
	S	PS	PF	F	S/F	
Not involved with prosthesis	116	8	12	6	124/18	87.3%
Terminal abutment with a prosthesis	11	1	0	2	12/2	85.7%
Non-terminal abutment for prosthesis	1	0	0	0	1/0	100%

$X^2 = .1422$ d.f. = 5.99 $p > .05$
Results not statistically significant.

TABLE 12 Effect of accessory root canals.

Accessory canals	Result of treatment					Rate of success
	S	PS	PF	F	S/F	
Not observed	124	9	13	6	133/19	87.5%
Obliterated	4	0	0	2	4/2	66.6%
Observed but not obliterated	0	0	0	0	—	—

$\chi^2 = 2.27$ d.f. = 3.84 $p > .05$
Results not statistically significant.

TABLE 13 Result of treatment in teeth with root resorption.

Root resorption	Result of treatment					Rate of success
	S	PS	PF	F	S/F	
Internal	2	0	1	0	2/1	66.6%
External, apical postoperative	3	0	0	0	3/0	100%
External apical postoperative	0	0	1	3	0/4	0

$\chi^2 = 1.20$ d.f. = 3.84 $p > .05$
Results not statistically significant.

Pre-operative external apical root re-sorption associated with periapical rarefaction was evident in three other treated teeth. Recall radiographs showed arrest-

ment of this process and regeneration of the lamina dura in each case. One of the teeth was a previously re-implanted non-vital incisor; the other two had vital

TABLE 14 Distribution of success and failure of endodontically treated teeth.

Teeth	Result of treatment					Rate of success
	S	PS	PF	F	S/F	
Maxillary						
central incisor	49	3	6	3	52/9	85.2%
lateral incisor	25	1	3	1	26/4	86.6%
cuspid	5	1	1	0	6/1	85.5%
1st bicuspid	1	0	0	0	1/0	100.0%
2nd bicuspid	7	1	0	1	8/1	88.8%
1st molar	0	1	0	1	1/1	50.0%
2nd molar	1	0	0	0	1/0	100.0%
3rd molar	1	0	0	0	1/0	100.0%
Mandibular						
central incisor	4	0	2	1	4/3	59.1%
lateral incisor	5	0	2	0	5/2	71.4%
cuspid	4	2	0	1	6/1	85.7%
1st bicuspid	6	0	0	0	6/0	100.0%
2nd bicuspid	8	0	0	0	8/0	100.0%
1st molar	11	0	1	0	11/0	91.6%
2nd molar	1	0	0	0	1/0	100.0%
3rd molar	1	0	0	0	1/0	100.0%

pulps. One was treated surgically by root resection, the other non-surgically.

Postoperative external apical root resorption was recognized in four instances. In two cases the root canals appeared inadequately obliterated. All four cases were considered failures. The differences are not statistically significant.

11. *Success-Failure Distribution.*—The results are analysed in Table 14.

12. *Resorption or Tolerance of Excess Root Canal Sealer.* — Successful results were achieved in 117 (88.6 per cent) of 132 root canals obliterated with no identifiable excess sealer (Table 15). Success attended eight (72.7 per cent) of 11 teeth with no apparent resorption of excess sealer. Six (85.9 per cent) of seven teeth with partly resorbed excess sealer ap-

peared successful. Treatment was also uniformly successful in four cases where excess sealer was completely resorbed. The differences, however, are not statistically significant.

13. *Resorption or Tolerance of Excess Gutta Percha.*—There were 131 adequately filled root canals where no excess filling material of any kind was observed. One hundred and fifteen (87.8 per cent) of these appeared successful (Table 16). A similar result attended 14 (82.3 per cent) of 17 cases with no apparent resorption of excess gutta percha. Three (75.0 per cent) of four cases with partly resorbed gutta percha were likewise successful. Only one case was observed with complete resorption; it was also successful. Again, the differences are not statistically significant.

TABLE 15 Effect of root canal sealer tolerance.

Excess root canal sealer	Result of treatment					Rate of success
	S	PS	PF	F	S/F	
None present	115	2	7	8	117/15	88.6%
Resorption not apparent	5	3	3	0	8/3	72.7%
Resorption occurring	5	1	1	0	6/1	85.9%
Resorption complete	3	1	0	0	4/0	100.0%

$X^2 = 2.92$ d.f. = 7.81 $p > .05$
Results not statistically significant.

TABLE 16 Effect of gutta percha tolerance.

Excess gutta percha	Result of treatment					Rate of success
	S	PS	PF	F	S/F	
None present	115	0	9	7	115/16	87.8%
No apparent resorption	6	8	3	0	14/3	82.3%
Resorption occurring	2	1	1	0	3/1	75.0%
Resorption complete	1	0	0	0	1/0	100.0%

$X^2 = 0.8397$ d.f. = 7.81 $p > .05$
Results not statistically significant.

TABLE 17 Relationship of pre-obliteration cultures to successful endodontic treatment.

Pre-obliteration cultures from pulp chamber	Result of treatment					Rate of success
	S	PS	PF	F	S/F	
Negative	19	2	0	1	21/1	95.4%
Positive	5	2	1	0	7/1	87.5%

$\chi^2 = 0.392$ d.f. = 3.89 $p > .05$
Results not statistically significant.

Pre-obliteration cultures from apical third of root canal	Result of treatment					Rate of success
	S	PS	PF	F	S/F	
Negative	22	3	0	1	25/1	96.1%
Positive	3	1	0	0	4/0	100.0%

$\chi^2 = 0.1894$ d.f. = 3.84 $p > .05$
Results not statistically significant.

14. *Bacteriological Cultures.*—The results of only 30 cases (Table 17) were available for classification. Culture tests of root canals, previously reported negative, were repeated in each of these cases immediately before obliteration.

Sterile cotton pellets were used in culture tests of 30 pulp chambers. Twenty-two teeth yielded negative cultures; 21

(95.4 per cent) were successfully treated. Positive pre-obliteration cultures were obtained from eight teeth; seven (87.5 per cent) were treated successfully.

Thirty culture tests of the apical third of the root canals were made with fine sterile paper points. Twenty-six were negative. Twenty-five (96.1 per cent) of these cases proved successful. The four

TABLE 18 Effect of aetiology of pulp disease on outcome of treatment.

Aetiology	Result of treatment					Rate of success
	S	PS	PF	F	S/F	
Carious exposure	42	7	6	0	49/6	89.1%
Operative exposure	10	0	1	0	10/1	90.9%
Trauma	31	1	4	2	32/6	84.2%
Extensive silicate restoration	21	0	0	1	21/1	90.8%
Extensive alloy restoration	3	1	0	1	4/1	80.0%
Crown restoration	5	0	0	1	5/1	83.3%
Intentional extirpation for retention	6	0	0	1	6/1	85.7%
Previously unsuccessful root canal therapy	4	0	1	1	4/2	66.6%
Previous pulp mummification	2	0	0	0	2/0	100.0%
Incorrect diagnosis	2	0	0	1	2/1	66.6%

TABLE 19 Effect of age on outcome of treatment.

Age	Result of treatment					Rate of success
	S	PS	PF	F	S/F	
0-9	3	0	1	1	3/2	60.0%
10-19	57	3	7	3	60/10	85.7%
20-29	15	1	1	1	16/2	88.8%
30-39	18	0	2	2	18/4	81.9%
40-49	17	0	1	1	17/2	89.4%
50-59	8	1	0	0	9/0	100.0%
60-69	7	1	0	0	8/0	100.0%
70-79	0	2	0	0	2/0	100.0%

remaining teeth, with positive pre-oblit-
eration cultures, were also treated suc-
cessfully. The differences are not statisti-
cally significant.

15. *Aetiology.* — Aetiological factors did
not appreciably influence the success of
endodontic treatment (Table 18) except
in re-treatment of previously unsucces-
sful root canal therapy. Only four (66.6
per cent) of six re-treated cases were
successful, but the number is too small to
warrant consideration.

16. *Age.*—Treatment success was fairly
uniform (81.9-100 per cent) at all ages
except the 0-9 year age group (Table 19).
Only three (60 per cent) of five cases
were successful in this group, again too
few to justify statistical evaluation.

DISCUSSION

A report which excludes subjective
clinical symptoms and oral and histologi-
cal evidence is admittedly incomplete.
Case records and radiographs neverthe-
less furnish valuable and indispensable
information.

1. *Systemic Condition.* — Many dentists
have long opposed the initiation of endo-
dontic treatment in the presence of sys-
temic disease. This survey, like that of

Strindberg,¹ reveals no appreciable
difference between the failure frequency
in healthy and ailing patients. This ac-
cords with an opinion expressed by Bend-
er, Seltzer and Freedland² who contend
that they “know of no systemic disorder
that negates endodontic treatment.”

2. *Vital and Non-Vital Root Canals With
and Without Periapical Areas of Rare-
faction.* — This survey, like those of
Strindberg¹ and Bender, Seltzer and
Turkenkopf,³ shows that the prognosis
for successful repair deteriorates as the
periapical area of rarefaction increases.
When necessary, treatment should begin
as soon as possible to minimize potential
enlargement of the area of pathosis.
Nothing is gained and much can be lost
by delaying treatment.

3. *Pre-operative Radiographic Appear-
ance of Borders of Periapical Lesions.* —
Curiosity prompted an analysis of the re-
lationship between methods of treatment
and the radiographic outline of pre-oper-
ative periapical areas of rarefaction. The
size of the lesion was not a consideration
here.

The overall success rate was 84 per
cent when lesions exhibited ill-defined
borders suggestive of a granuloma or
granulation tissue, but only 74 per cent
when lesions had well-defined borders
suggestive of cystic formation. These re-
sults are nonetheless misleading.

Non-surgical treatment achieved an 86.5 per cent success rate in lesions with ill-defined borders. Similar treatment proved successful in only 66.6 per cent of lesions with sharply defined borders. These results substantiate the views of Sommer et al,⁴ who advocate non-surgical treatment when a granuloma is present, and Grossman,⁵ who recommends surgery in the presence of a cyst. In addition, the 86.5 per cent success rate for non-surgical treatment of lesions with diffuse borders constitutes a clear indictment of surgery for all cases. Not only is unwarranted surgery inconsiderate of the patient's comfort and appearance; it also entails some risk of secondary infection, shock, embolism and paraesthesia. Surgical intervention may, however, be preferable for lesions with well-defined borders.

4. Gutta Percha.—There are many opinions about the most desirable method and extent of filling root canals.

Strindberg¹ reported more failures after 3.5-4 years from pronounced overfilling (Alytit or resin-chloroform with gutta percha) than from slight or no overfilling (statistically significant). Properly sealed canals were more successful than canals exhibiting poor adaption or shrinkage (statistically significant). A two year follow-up by Bender, Seltzer and Turkenkopf³ furthermore revealed that overfilled canals have the lowest (69 per cent) success rate, whereas flush-filled canals have the best (87 per cent) success rate. The present survey is in general accord with these observations.

Bender et al³ also report that lateral condensation yields slightly, though not significantly, better results than the single-cone method. Canals filled flush were statistically more successful after two years than canals filled slightly short of the apex.

All seven cases of inadequately obliterated canals were considered unsuccessful in this study; yet we cannot conclude this was the actual cause of failure. There are many examples of successful healing in the presence of inadequately filled canals. Torneck⁶ postulates that "underfilling a root canal which has been thoroughly

cleaned and adequately disinfected would probably result in healing of the surrounding periapical tissue, provided this tissue has a normal capacity for repair. Whether the tissue, once healed, would remain in a state of normalcy can be determined only by long-term studies."

5. Silver Points.—The few cases provided for study permitted consideration of only one group of results: those with canals filled 0.5-3.0 mm. short of the apex. Healing was uniformly successful in this group. There was only one case of an over-extended silver point and this was considered a failure. Failure, here, may be related to movement of the semi-rigid point in response to laterally and apically directed forces with resultant irritation in surrounding tissues.

6. Method of Treatment.—As previously noted, comparisons between surgical and non-surgical treatment are misleading unless there is due regard for the pre-operative pulpal and periapical status.

Non-surgical management of vital teeth was notably more successful than surgical treatment. However, surgical intervention proved more effective in teeth with pre-operative periapical areas of rarefaction; but even here the use of intra-alveolar drains to evacuate pus and aid bone regeneration may obviate the need for surgery.

7. Appointments Required to Complete Treatment.—The minute difference between the average number of appointments for successful and unsuccessful non-surgical treatment of non-vital teeth with associated periapical lesions is insignificant — particularly in view of the variety of factors involved. This topic does, however, pose the question of whether some time-honoured methods like intra-canal medication are beneficial, useless or, perhaps, even harmful.

Pearson and Goldman^{7,8} state that the sealing of camphorated mono-chlorophenol in the asymptomatic non-vital pulp chamber for several days prior to debridement of the apical third of the root canal has little, if any, bactericidal effect. Compared to premedicated cases, there is apparently no greater discomfort

when debridement — including that of the apical third of the root canal — is completed at the first appointment. Bender, Seltzer and Yermish⁹ observed that the incidence of bacteraemia rose to 25 per cent and returned to zero in 10 minutes following gross over-instrumentation during debridement. Therefore, there seems no reason why vital and non-vital root canals cannot be cleansed, enlarged and shaped at the initial appointment provided instrumentation and irrigation is confined to the canal. The author has employed this procedure for the past 17 years. Indeed, the only exception to this procedure is in cases of acute periapical infection where intensification of symptoms and spread of infection may occur.

8. Post-Treatment Function. — Employment of an endodontically treated tooth as an abutment for a prosthesis does not seem to impair healing. Consequently, there seems no reason why such teeth cannot be utilized for this purpose provided they are given the same protection and consideration tendered a vital tooth. A post cemented in the coronal portion of a root canal may substantially increase the stability and longevity of restorations.

9. Accessory Root Canals. — The presence or absence of accessory canals did not appear to influence treatment results in the present study despite considerable evidence that accessory canals play a role in the relationship between periodontic and pulpal disease. Possibly accessory canals are occluded by dentine filings during instrumentation; or perhaps these canals may not contain sufficient necrotic tissue to impede or prevent healing. A more likely explanation for the inactive role of these canals is that their content is initially extirpated or later dissolved during irrigation, rendering the space innocuous. In any event, lateral canals do not seem to be a major factor unless they are very large.

If accessory canals can be sealed by dentine filings during treatment, a possible adaption of this process may be preferable to using foreign materials for sealing the apical portion of the root canal. Nygaard Ostby¹⁰ has demonstrated

the deposition of cementum on a mass of dentine filings blocking an apical foramen. This may conceivably account for successful treatment where root canals are unintentionally blocked by dentine particles during instrumentation or where the filling appears inadequate. The difficulties of application may, however, outweigh the potential advantages of this method of sealing the apical foramen; yet the idea certainly merits further investigation.

10. Root Resorption. — Relatively little is known about the aetiology of root resorption. Houston¹¹ states that in cases of internal resorption the vital pulp exhibits signs of chronic inflammation and is asymptomatic. Suffusion or 'pink tooth' may be indicative of coronal or cervical resorption. Upon radiographic confirmation of internal resorption, endodontic procedures should be instituted to prevent further dentine loss and possible root perforation.

The prognosis is less predictable when treatment is complicated by pre-operative external apical root resorption. Nevertheless, resorption ceased and the lamina dura regenerated in three cases observed radiographically in the present survey. Two of these were treated non-surgically. The significant point to note is that the presence of external apical root resorption does not condemn a tooth to extraction. Endodontic treatment should begin as soon as possible to preserve as much root structure as possible provided, of course, the resorption is not a manifestation of systemic disturbance.

In this study, four cases exhibiting postoperative apical root resorption were considered failures but two showed inadequate obliteration of the root canal. The matter of further treatment is highly controversial. Root resection and/or restoration of the involved surface of the lesion with silver amalgam may be considered if the lesion is accessible; if inaccessible, non-surgical methods to eliminate the pathological process merit consideration. Endosteal implantation using a chrome-cobalt alloy post may also be considered as a means of prolonging the life of the tooth by providing additional stability.

11. *Success - Failure Distribution.* — A fairly consistent rate of success was recorded for all teeth observed in this survey. The mandibular incisors had the lowest success rate but their small numbers may give a misleading result.

Ingle¹² reports that maxillary lateral incisors have the highest failure rate, followed by mandibular first bicuspid. This may be due to anatomical problems encountered in the apical third of the root canal. The success-failure ratio of these teeth does not, however, vary radically from that of other teeth. Except where individual abnormalities exist, there is no contra-indication to the treatment of any tooth on the basis of its location in the arch or its anatomical formation.

12. *Resorption or Tolerance of Excess Root Canal Sealer.* — The extrusion of any root canal filling material into the supporting tissues has long been considered undesirable. More recently some practitioners have advocated the use of a slight excess of sealer. This, they postulate, indicates that an apical seal has been achieved. They further claim that all the excess is resorbed or tolerated by the tissues indefinitely.

The following results emerged from the present survey: an 88.6 per cent success rate when there was no excess sealer following canal obliteration; a 72.7 per cent success rate when no resorption of sealer was apparent after one year; an 85.9 per cent success rate when obvious but incomplete resorption of sealer was observed; and a 100 per cent success rate when resorption of sealer appeared complete.

In a four year follow-up, Strindberg¹ observed a 10 per cent higher failure frequency in teeth with excess root canal filling material than in teeth where no excess was present. He did not, however, differentiate between excess sealer and excess gutta percha. He also reported a slightly better prognosis for roots exhibiting disappearance of excess filling material.

The prognosis apparently improves when resorption of excess material occurs or is complete, but it deteriorates when resorption is not evident. The resistance

or tolerance of the host appears to be an important factor but one that probably cannot be determined pre-operatively.

13. *Resorption or Tolerance of Excess Gutta Percha.*—Results of healing in the presence of excess gutta percha and excess root canal sealer were generally similar.

Hunter¹³ states that gutta percha and silver points are compatible for up to six months with adjacent bone, fat, fibrous or haematopoietic tissue. Rickert's sealer, however, induces a foreign body reaction characterized by sustained phagocytosis of its component particles. In an animal study Rappaport et al¹⁴ observed a gradual diminution of the initial toxicity in eight of 10 commonly used sealers. Inflammation diminished the longer the materials were allowed to remain *in situ*.

One can only conclude that excess root canal sealer subjects periapical tissue initially to chemical irritation of variable intensity.¹⁵ An excess of sealer or filling materials may also act as a mechanical irritant. Consequently, the success-failure ratio is again largely dependent on the resistance or tolerance of the host.

14. *Relationship of Pre-obliteration Cultures to Healing.*—Results of only 30 cases were available where cultures had been recorded as negative and tests were repeated immediately prior to obliteration of the root canal. There seemed to be no appreciable difference in healing, after one year, between teeth which yielded positive or negative pre-obliteration culture tests.

Engström and Lundberg,¹⁶ also after one year, observed a higher failure frequency in cases with positive pre-obliteration culture tests. The difference was not statistically significant, however.

Bender, Seltzer and Turkenkopf,³ surveying 706 teeth after two years, discovered no statistically significant difference between the two groups. They considered the culture technique unnecessary.

However, a 3.5-4 year follow-up of 126 cases of Engström and Lundberg¹⁶ showed a 19.8 per cent higher success rate for teeth negative to pre-obliteration culture tests (statistically significant).

A two year period is evidently inadequate for relating periapical repair to bacteriological studies. Additional long-term surveys are needed to clarify this issue.

Delayed failure may result from decreased resistance of the host permitting re-infection of a traumatized periapical region. Residual infection, accumulated toxic products resulting from trauma or from leakage of root canal filling materials,¹⁷ or some other factor or combination of factors may also be responsible for treatment that fails.

Considering the simplicity of culture testing, the possible benefits afforded the patient and the need for more concrete evidence on this controversial topic, common sense dictates the continuation of culturing procedures. This applies particularly to non-vital root canals exposed to direct bacterial contamination from the oral cavity or when there is clinical evidence of an acute periapical infection.

15. Aetiology.—The aetiology of pulpal injury or necrosis did not apparently prejudice the end result of endodontic treatment.

16. Age.—The success rate in the present survey was actually higher in the older age groups. Ingle¹² and Strindberg¹ report no significant difference in the success-failure ratio for any age group.

CONCLUSIONS

The following observations emerge from this one year follow-up of 158 endodontically treated teeth and a review of pertinent literature:

1. The presence or absence of systemic disease has no appreciable influence on the success rate of endodontic treatment. When pulp disease occurs in the presence of systemic disease, root canal therapy should be the first choice of treatment, not the last resort.

2. The prognosis for successful treatment is most favourable with vital pulpectomy. In non-vital cases with associated periapical areas of rarefaction, the prognosis progressively deteriorates as the size of the area increases.

3. Root canals filled flush or 3 mm. short of the apex prove more successful than overfilled canals.

4. Non-surgical treatment is more successful in teeth with vital pulps. Surgical intervention is more successful when a large periapical area of rarefaction is present.

5. The use of an endodontically treated tooth as an abutment does not adversely affect successful healing.

6. Pre-operative external apical root resorption does not obviate successful endodontic treatment. The prognosis is unpredictable, however.

7. The location of the tooth, aetiology of pulp disease and age of the patient do not affect the success rate of endodontic treatment.

8. Intentional overfilling of root canals is undesirable.

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Pathological fracture resulting from mandibular atrophy: report of two cases

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Atrophy of the mandible is a subject that has received relatively little attention from practising dentists. Two cases of pathological fracture are described in patients with mandibular atrophy and a previous history of advanced periodontic disease. This kind of atrophy, which may represent the continuation of an earlier alveoclasia, seems to be a possible sequel of uncontrolled periodontic disease. The disease must be arrested before most of the alveolar process is destroyed and the teeth become so loose that they can be removed with finger pressure.

L'atrophie du maxillaire inférieur est un sujet auquel les praticiens dentaires ont accordé relativement peu d'attention. Cette étude décrit deux cas de fracture pathologique chez des patients victimes d'atrophie mandibulaire et ayant souffert de maladie périodontique avancée. Ce genre d'atrophie, qui peut être la conséquence d'une alvéoclasie antérieure, serait le résultat d'une maladie périodontique. Il faut enrayer l'évolution de la maladie avant la destruction de la majeure partie du processus alvéolaire et avant que les dents soient tellement mobiles que la pression des doigts suffise à les extraire.

Atrophy is a regressive process in which a normally developed part becomes reduced in volume and size and may even disappear completely.

The following reports of pathological fracture following mandibular atrophy of periodontic origin demonstrate a need for much greater awareness of the sequelae of inadequate treatment of periodontic disease.

REPORT OF CASES

CASE 1

A 49 year old man came to the Department of Oral Surgery, Doctors Hospital,

Toronto, on June 13, 1962 because of pain and swelling in the right jaw (Figure 1). He had been edentulous for five years. His teeth had been removed because of severe periodontic disease. The day before his appointment with us he had eaten a tomato sandwich and heard a snap. Pain and swelling developed gradually and his dentures no longer met properly. He saw his physician and radiographic examination revealed a fracture through the right body of the mandible. The physician prescribed penicillin and analgesics and referred the patient to us. His past medical history included the occurrence of venereal disease treated and cured with penicillin. He also had an episode of severe shortness of breath following the extraction of all his teeth. He was treated with digitalis for a short period of time. His

physician later told him that this episode was not a true myocardial infarction.

Examination. — The patient had a moderately soft swelling below the right body of the mandible. There was mobility of the mandible in the right lower first molar region accompanied by pain and crepitation. The oral mucosa was intact (Figure 2).

Radiographic examination disclosed a pipe-stem edentulous mandibular body 3-4 mm. in diameter. An oblique telescoped fracture, with gross displacement,

was evident in the right body of the mandible (Figure 3).

Findings from laboratory studies were non-contributory. Serum alkaline phosphatase, serum calcium and serum phosphorus values were normal.

Treatment. — On June 14 the patient was anaesthetized using sodium thiopental, nitrous oxide and oxygen and meperidine with nasoendotracheal intubation. The patient was prepared and draped in the usual manner for an extra-oral procedure. A 2 inch incision was made one fin-

FIGURE 2 Intra-oral view of patient in Case 1. Note the extremely flat almost non-existent mandibular alveolar ridge. There is also a fibroma in the right buccal mucosa.

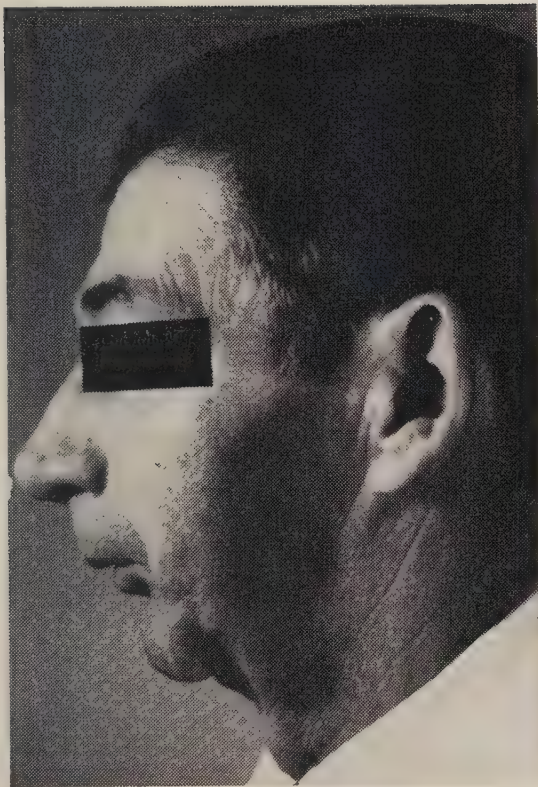


FIGURE 1 Clinical appearance of patient, described in Case 1, on initial examination. Note the small retruded mandible.



FIGURE 3 Radiograph of the mandible of patient in Case 1. Note the thin mandibular body and telescoping at the fracture site.

ger's breadth below the inferior border of the right body of the mandible directly under the fracture site. Using sharp and blunt dissection the external maxillary artery and vein were found, clamped and ligated with triple O plain catgut suture. The inferior border of the mandible was exposed and the masseter muscle and periosteum were detached and elevated from the bone with a periosteal elevator. The fracture site was curetted and freshened and a hole was drilled on either side of the fracture line. Atrophy was so severe that only 1 mm. of bone remained on either side of the bur hole. Figure of eight wiring was performed with 26 gauge stainless steel wire in order to approximate the fragments accurately. The wound was then closed in layers, the deeper layers with triple O chromic and the skin with five O silk interrupted vertical mattress sutures.

Entering the mouth, aneurysm needles were used to pass 26 gauge wires around the left and right zygomatic arches. These wires were then attached to lugs that had been previously inserted in the maxillary denture. This circumzygomatic wiring of the maxillary denture assured its stability in the mouth. Using a trochar and 26 gauge wires, the lower denture was then attached to the mandible by further circumferential wiring. Intermaxillary fixation of the jaws in centric occlusion was obtained by attaching the maxillary to the mandibular denture with three 26 gauge wires — one in the midline, and one each in the left and right bicuspid region. This provided excellent stabilization of the fracture site. Immediate postoperative radiographs showed good alignment of the bone fragments.

Postoperative Course. — The patient recovered rapidly and was discharged from the hospital five days following the operation. Skin sutures were removed at this time. He was seen weekly thereafter to inspect the stability of the wires. These visits proved uneventful until July 23, six weeks following surgery. At this visit two circummandibular wires were broken, the dentures were loose and the patient complained of pain in the right jaw. The intermaxillary wires and the circummandibular wires were removed and the lower

denture was taken out. We detected no union but observed exposed lingual bone in the mouth. This bone was loose and was removed under local anaesthesia. The patient was given a prescription for penicillin and instructed to stay on a soft diet. When next seen on July 30 he was comfortable and the operative site was healing intra-orally. However, on August 7, he again presented with pain and swelling in the right mandible. Two large sequestra were removed. Radiographs taken at this time showed a wide separation of the jaw fragments. We prescribed penicillin again and asked the patient to return in two weeks. We knew that, to succeed in a further operation, a bone graft would be necessary. This was explained to the patient. He returned on August 20. Intra-orally, the operative site was completely healed and the patient was very comfortable. Of course, the initial fracture site still exhibited non-union. Furthermore, a fracture of the left body, similar to the right side, was found on clinical examination. The patient was unaware of this second fracture. Despite explanation and considerable urging, he nevertheless declined the bone graft operation we deemed necessary for success. We removed the circumzygomatic wires around the upper denture. When we saw him again two weeks later he had no complaints at all. He could wear his newly made dentures and eat all kinds of foods even though there was marked mobility at the fracture sites. Once again he refused a further operation.

CASE 2

A 45 year old woman came to the Department of Oral Surgery, Doctors Hospital, on October 7, 1964 because of a persistent left submandibular swelling and a discharging sinus. All of her teeth had been extracted eight years previously on account of advanced periodontic disease. She had to have new dentures periodically to compensate for continuing bone loss over the years. About one month previously she was seen by a general surgeon regarding a moderate swelling in the left submandibular region. He operat-



FIGURE 4 Immediate postoperative radiographs of patient in Case 2 show the reduced fracture site with transosseous wire fixation.

ed and told the patient that she had an infection that should improve. However, a sinus developed subsequently and the swelling persisted. She was then referred to us by her family dentist. Her past medical history was non-contributory.

Examination. — The patient had a moderately firm swelling in the left submandibular region with a draining sinus discharging on the skin. Palpation disclosed a very thin pipe-stem mandible. Obvious mobility and crepitation were noted in the lower left first molar area. The oral mucosa was intact. Radiographic examination revealed an oblique fracture of the left horizontal ramus of the mandible. The distal fragment was displaced inferiorly relative to the proximal fragment. The ends of the fracture fragments ap-

peared somewhat blunted, suggesting that the fracture was not recent.

Treatment. — On October 10, under general anaesthesia, we performed an open reduction and transosseous wire fixation of the fracture site in a figure of eight pattern. In view of the fragility of the mandible we omitted circumzygomatic and circummandibular wiring and intermaxillary fixation in order to avoid any excessive force. Circummandibular wiring would have been impossible in any event because there was 1 cm. of bone loss at the fracture site so that the denture did not fit at all. We decided instead to keep the patient on a liquid diet and to restrict movement of the mandible as much as possible. The sinus was also dissected out. We did not insert a bone graft

at this time because of the presence of chronic infection. (Figure 4).

Postoperative Course. — The patient was discharged seven days after admission. She left the hospital in excellent condition and was instructed to return at weekly intervals. She was also given one week's supply of oral penicillin. The swelling decreased, the sinus healed and there was no further discharge one week after surgery. On December 5 the mandible was no longer mobile at the fracture site. Radiographs confirmed our clinical findings. We explained to the patient that a bone graft operation to strengthen her mandible would be ideal. She said she would think it over. We saw her for the last time on March 24, 1965. Her new upper and lower dentures were in good relationship. The patient was very pleased and could masticate well. She did not want to undergo further surgery for a bone graft unless the jaw became fractured again. We concurred with her.

DISCUSSION

Atrophy differs from hypoplasia. The latter results from lack of development or defective development of a part so that normal size is never attained. Atrophy may be regional, affecting all the tissues of a part of the body like the face, or it may be restricted to one tissue like bone, as in the mandible, or part of a bone, as the alveolar process of the jaws. All forms of atrophy probably arise from circulatory disturbance or altered metabolism, but no aetiological factor has ever been conclusively identified. Atrophy is therefore classified on a clinical basis, and we distinguish atrophy of disuse, pressure atrophy, senile atrophy and periodontic atrophy.^{1,2}

Atrophy of Disuse. — Lack of function or disuse results in a diminished vascular flow which becomes inadequate for the maintenance of normal tissue. Osteoblasts degenerate but resorption continues when the blood supply to the jaw bone is reduced. Apposition of new bone may be resumed when the jaw is returned to normal function. This reaction to use and dis-

use is governed by the principle of Wolfe's Law whereby a bone is built with as little tissue as possible so that it can best resist the forces which are brought to bear upon it.¹⁻³

Pressure Atrophy. — This happens if pressure exceeds normal tolerance limits. Balanced physiological stress ordinarily stimulates bone growth. Such stress, in the case of the jawbones, includes pressure exerted by dentures. Functional pressure should therefore stimulate the production of new bone, even in a bone graft. One might anticipate atrophy of the alveolar ridge in an edentulous patient who does not wear a denture. The wearing of a denture would likewise be expected to favour the maintenance of normal bone quantity. This tolerance ratio is actually influenced by systemic factors as well as the degree of stress. In the presence of adverse systemic factors, the pressure from a denture, especially if it is excessive, may produce the opposite result, namely resorption.¹⁻³

Senile Atrophy. — This form of atrophy may be due to osteomalacia or osteoporosis. Haversian systems have a limited life. New systems are constantly formed to replace older ones that disintegrate. This process continues even after bones reach their full development. In osteomalacia abnormal mineral metabolism results in bone that is imperfectly calcified, and substantial portions of the skeleton may be replaced by osteoid tissue. Osteoporosis, on the other hand, is not due to lack of calcification. It stems from imperfect osteoblasts which produce inadequate amounts of organic intercellular substance. The amount of new bone formed is insufficient to replace that which disintegrates. Consequently, the bones become thin and fragile. We do not know why these processes occur in older persons, but certain hormones and vitamin D and C deficiencies are thought to be implicated.^{1,4}

Periodontic Atrophy. — This type of atrophy is particularly important in the mandible. It is the continuation of alveoloclasia present before the teeth are extracted. A denture, if present, becomes loose and unstable and is readily displaced by the muscle attachments during mastication. Gingival changes may re-

sult from constant denture irritation. Smedley⁵ remarks that the bone almost seems to melt away under dentures in jaws with open cancellous bone. He attributes the cancellous bone to preceding alveoloclasia which has destroyed the interdental septa and some of the cortical bone. Systemic factors may contribute to the alveoloclasia and to the subsequent atrophy after the teeth have been removed. Waldron⁶ concurs that previous extensive periodontic disease contributes to accelerated atrophy in the edentulous mandible. He contends, however, that the mechanism is not clear. The fact that elderly persons with healthy natural teeth experience little or no alveolar atrophy underlines the importance of periodontic disease in the aetiology of mandibular atrophy. Thoma^{2,3} has also described atrophy in patients who are affected by periodontic disease but do nothing about the condition until their teeth are ready to fall out. These patients lose almost the entire alveolar process after the teeth are removed. Thoma also concludes that unnamed systemic factors contribute to such periodontic atrophy.

SUMMARY

Two cases of pathological fracture resulting from mandibular atrophy are de-

scribed. Both patients had a previous history of advanced periodontic disease. It is our experience that most patients with severely atrophied mandibles have advanced periodontic disease prior to the extraction of their teeth. The subsequent atrophy in these patients may reflect a continuation of the earlier alveoloclasia. Other forms of mandibular atrophy, such as atrophy of disuse, pressure atrophy and senile atrophy, are also described. These conditions are less frequent, however.

Dentists and their patients should become more aware of the consequences of advanced periodontic disease. The disease should not be permitted to progress until 90 per cent of the alveolar process has been destroyed and the teeth are so mobile that they can be removed with finger pressure.

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25 Brunswick Avenue

Dentist Sued for Periodontic Disease • Mr. and Mrs. E. J. Werner of Plainfield, New Jersey, USA, recently accepted \$15,000 in settlement of a malpractice suit brought against their dentist. The Werners were treated periodically by the dentist from 1959 to 1965. During this time, according to their suit, they suffered from gum disease and resultant bone loss. They alleged the condition gradually worsened because it was not detected by the defendant during his examination. — Chronicle of the Omaha District Dental Society.

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Morphological classification of the furca

Various measures have been proposed for the eradication of periodontic disease which extends into the furcation region of posterior teeth. A morphological classification of the furca is proposed as a basis for evaluating the relative merits of these treatments. This classification is based on the position of the gingiva, periodontic ligament and bone relative to the tooth furcation.

On a proposé différentes méthodes pour traiter les lésions périodontiques qui s'étendent dans la région de la bifurcation des racines des dents postérieures. L'auteur suggère une classification morphologique de la zone interradiculaire dans le but de comparer les relatifs des différents modes de traitements. Cette classification tient compte de la position de la gencive, du ligament périodontique et de l'os, par rapport à la bifurcation de la racine de la dent.

A furcation involvement exists whenever periodontic disease extends into a tooth furcation (the normal anatomical division of the roots of posterior teeth).¹ Although methods have been suggested to manage this problem,²⁻⁴ prognosis and treatment still rest primarily on clinical impression. Therapy has largely centered on correction of tissue deformities within the furca (the area between the roots extending from the tooth midline to the periphery of the roots, as shown in Figures 1 and 2). Extraction, the commonest treatment, is contra-indicated when a tooth is strategic to the survival of the dentition. Tooth hemisection or root am-

putation, though by no means new, is gaining popularity.⁵ The immediate results of root amputation are encouraging but the long term prognosis is uncertain. Clinicians must therefore decide for themselves whether to resort to such a measure or rely on gingivectomy or osseous contouring.

The requirements for successful eradication of furcation problems have never been delineated. In fact, the term 'furcation involvement' has not been properly defined in a quantitative sense, although attempts have been made.⁶⁻⁸ Such a definition is needed so that dentists may properly document their cases and facili-

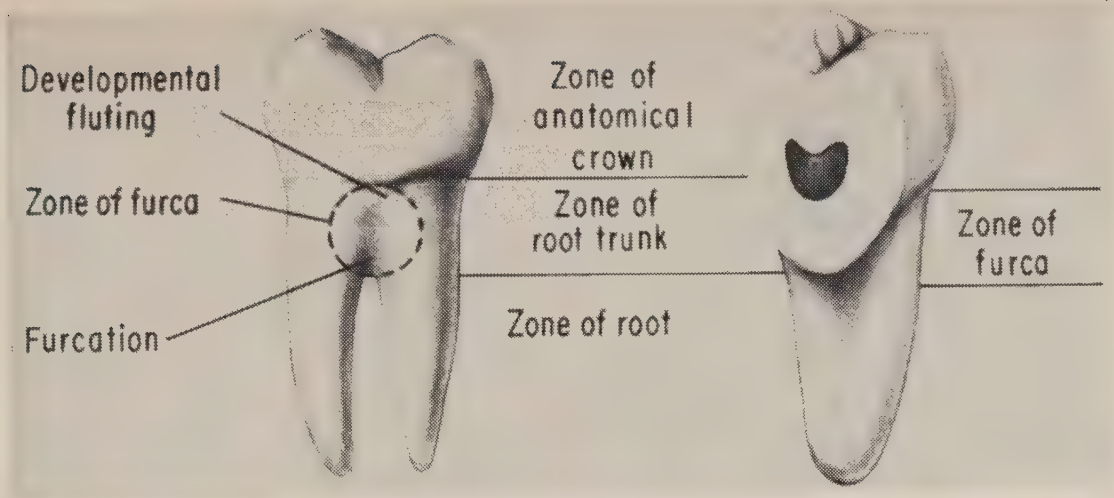


FIGURE 1 Illustration of the furca.

tate the evaluation of various treatment methods for each class of furcation involvement. The morphological classification of the furca here described has been

devised for this purpose. It is based on the position of the dentogingival junction, periodontic ligament and bone within the furca.

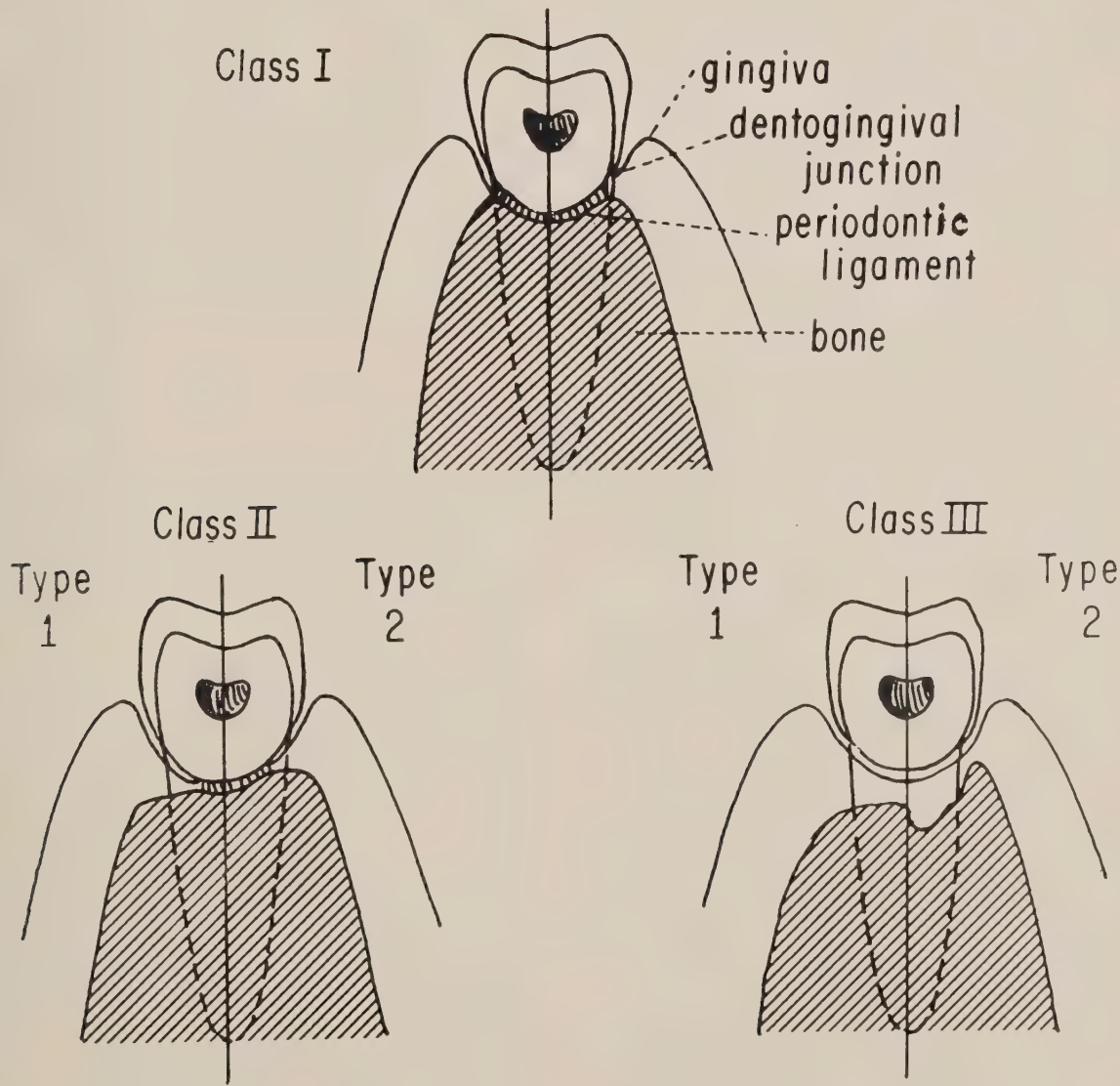


FIGURE 2 Schematic representation of furcation involvements.

CLASSIFICATION

Class I (Normal Furca). — The gingival attachment lies on the coronal one-third of the developmental (interradicular) fluting of the root trunk.⁹ The periodontic ligament is continuous from the midline of the tooth laterally to the dentogingival junction on the coronal one-third of the root trunk. Alveolar bone completely fills the furca and extends coronally to cover the midportion of the developmental fluting along the root trunk.

Class II (Incipient or Partially Involved Furca). — The dentogingival junction lies in the midportion of the fluting along the root trunk but has not extended into the interfurca (the region between the three or more anatomically divided roots at their base). The periodontic ligament is intact from the dentogingival junction to the midline of the tooth. Alveolar bone is in juxtaposition with the tooth furcation but does not extend coronally along the root trunk as in Class I. The lateral contour of the bone commonly has one of two forms:

Type 1. — The crestal bone lateral to the tooth may be flat and extend horizontally into the furcation as a flat ledge or shelf.

Type 2. — The crestal bone lateral to the tooth is not ledged but slopes coronally into the furcation area.

Class III (Completely Involved Furca.) — The dentogingival junction does not exist in the furca. It lies on the tooth roots, apical to the furcation, and may also lie on the root trunk beyond the tooth's midline. The periodontic ligament does not exist in the furca. There is no bone in juxtaposition with the furcation. Laterally, the crestal contour of alveolar bone possesses one of two basic forms:

Type 1. — The crestal bone may present a definite shelf or ledge which extends horizontally into the furca. The resultant space between the bone and tooth is characteristically funnel shaped. The bone lateral to the tooth is then generally apical to its normal position.

Type 2. — The bone may or may not have diminished crestal height. The resultant space between the tooth and bone

forms a tunnel leading into the furca. The orifice of this space is often restricted, creating an open cavity within the furca.

Each furca of a tooth is considered separately so as to minimize confusion in classifying bifurcation or trifurcation involvement. The bifurcation in a typical lower molar is then divided into two furcal zones, and a furca classification is registered for both the buccal and the lingual aspect of the tooth.

For example, a lower molar with a classic 'through - and - through' furcation involvement could be designated:

Buccal furca Class III, Type 1

Lingual furca Class III, Type 2

Similarly, a trifurcation involvement of a maxillary molar might be designated as:

Buccal furca Class III, Type 2

Mesial furca Class II, Type 1

Distal furca Class I

In this case the root trunk between the mesiobuccal and distobuccal roots is denuded of bone, periodontic ligament and dentogingival junction and there is buccal access to the interfurca. On the other hand, there is no mesial or distal access to the interfurca because periodontic ligament and dentogingival junction are partially present between the mesiobuccal and lingual roots, and the tissues are in their normal position between the distobuccal and lingual roots.

EXPLORATION OF THE FURCA

Exploration of the furca is readily accomplished with the diagnostic instruments commonly utilized in examining the periodontium.

Dentogingival Junction. — The position and contour of the dentogingival junction within the furca is explored by carefully and systematically drawing a periodontic probe along the base of the sulcus or pocket. Thus, a mental picture may be formulated of the relationship of the contour of the dentogingival junction and tooth form.¹⁰ A blunted cowhorn explorer or thin curette may be useful when access to the furca is restricted, or when the roots are closely approximated and the furcation is located apical to its usual position. Anatomical irregularities such as intermediate bifurcation ridges¹¹ and

enamel projections^{12,13} may be noted at the same time.

Periodontic Ligament. — The relative position and extent of the periodontic ligament is noted by studying the topography of the dentogingival junction in conjunction with radiographs. Diagnostic radiographs are valuable in discerning the extent of bone loss within a furca and the presence or absence of a normal periodontic ligament space. It is sometimes difficult to interpret radiographs of this area due to the superimposition of tissues on both sides of the tooth midline. This problem may be overcome by directing the x-ray beams at various horizontal and vertical angles. When the roots are extremely close together or partially fused, however, radiographs have limited value.

Alveolar Bone. — Study of the plotted position of the dentogingival junction provides a clue to the contour of the bone in juxtaposition with the tooth. Bone form lateral to the tooth may be determined by probing through the soft tissues and 'sounding out' the contours of the bone.¹⁰ Correlation of this information with the radiographs provides an accurate assessment of bone deformities within the furca. If the soft tissues are surgically removed from the furca the bone deformity can be visualized directly.

DISCUSSION

Other factors, apart from the character of the furca, must also be considered when comparing different treatments. The shape of the tooth, its position, the nature of the occlusion and the extent and magnitude of any disease elsewhere in the mouth will influence the result of treatment. Despite these variables, valid comparisons of success and failure can still be obtained for the guidance of the clinician.

Recently, several investigators have labelled enamel projections^{12,13} and accessory canals¹⁴ as potential predisposing factors of furcation involvement. Occlusal trauma has also long been implicated as a potential threat to the integrity of the furcation.¹⁵ Correlation with the character of the furca will aid in determining

any significance these factors may have in the aetiology, treatment and prognosis of furcation problems.

SUMMARY

Treatment of periodontic disease which extends into the furcation of the teeth is of concern to every clinician. There is no definitive therapy for this problem although many different treatments have been tried. A classification of the furca, based upon the form and position of the gingiva, periodontic ligament and bone, is necessary so that specific treatments may be compared. Such a classification is presented in this article. It may aid future investigators when they report their findings on the aetiology, management and prognosis of furcation problems.

This article is a portion of a paper which the authors presented before the Western Society of Periodontology, July 1965.

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Periodic re-examination for licensure

Of late, the public press has had a good deal to say about the predicament of foreign dentists who find that they cannot practise their profession upon arrival in Canada. Some editorial writers give the impression that the profession raises all manner of obstacles in the path of these newcomers who are anxious to serve an eager public. However, none of the writings mention that provincial practice acts are there to protect the public just as much as professional standards. An extraction, they say, is the same in French, in English or in any other language. But such oversimplification skirts the real issue: that the Canadian public expects and is entitled to dental care that measures up to Canadian standards of practice. And if our immigration officials have not always alerted prospective newcomers about our provincial licensing laws and the requirements for further study, they too must bear a share of the blame for the plight of immigrant dentists.

But what about our own practitioners? Are we really certain that every licensed Canadian dentist fulfils the requirements imposed upon foreign graduates? Or would our position vis-à-vis governments and the public be strengthened if Canadian dentists had to submit to periodic re-examination in order to retain the right to practise?

As things now stand, a dentist who graduates and is licensed can count on retaining his licence for life unless he commits a breach of professional conduct. Some provincial dental organizations, however, are having second thoughts and are looking into the question of periodic re-examination. Under regulations adopted last July, members of the Oregon Medical Association who fail to observe up-to-date practice methods now risk severe penalties ranging to actual expulsion.¹ This measure, the first of its kind by an American state medical society, is intended to narrow the gap between new medical discoveries and their application to daily practice.

Our profession must strive for continued improvement of dental education. But, even more important, we must devise more effective means of keeping the practitioner abreast of advances in all aspects of dentistry.

1. La Presse, Montreal. July 11, 1968.

Un examen périodique pour la licence?

On a fait beaucoup de bruit ces derniers temps au sujet de dentistes étrangers venus au Canada qui se voient dans l'impossibilité de pratiquer leur profession. L'opinion publique, aiguillonnée par la presse éditoriale s'est surtout attachée au fait que la profession semblait ériger des obstacles afin d'empêcher ces

collègues de servir un public qui voulait d'eux. Cette propagande n'a jamais fait remarquer que les lois provinciales existent aussi bien pour protéger le public que les normes de la profession. Il est peut-être vrai que, comme certains l'ont dit, il semble n'y avoir aucune différence entre une extraction en français, en anglais ou en toute autre langue, mais la presse populaire a manqué à son devoir quand elle néglige de rappeler au peuple canadien qu'il a droit à des soins dentaires complets et prodigués selon les normes canadiennes.

La faute doit donc retomber carrément aux pieds du Ministère de l'Immigration qui néglige d'instruire convenablement les dentistes qui s'installent au Canada que ceux-ci devront satisfaire les bureaux d'examen provinciaux, ou par des examens, ou par des études supplémentaires.

Tout ceci n'a été écrit que pour faire remarquer une anomalie qui existe au sein de la profession: sommes-nous vraiment sûrs que tous les dentistes licenciés au Canada remplissent les mêmes conditions que nous demandons aux dentistes étrangers? Notre position envers les gouvernements et le grand public serait beaucoup plus forte si nous pouvions démontrer que nos propres membres subissent un examen périodique pour la licence. Une fois sorti de l'université, le dentiste peut espérer garder sa licence à vie, à moins de contrecarrer l'éthique professionnelle. Quelques organisations dentaires provinciales ont déjà commencé à considérer l'examen périodique des praticiens et il est intéressant de remarquer que l'Association médicale de l'Oregon a pris la décision en juillet 1968 d'obliger ses membres à pratiquer la médecine de façon régulière sous peine de se voir imposer de sévères pénalités allant jusqu'à l'expulsion.¹ Il s'agirait là de la première mesure de ce genre prise par une société médicale d'état aux Etats-Unis, mesure qui viserait à réduire l'écart qui existe entre les plus récentes découvertes de la médecine et la pratique médicale quotidienne.

Notre profession se doit aussi de jouer un rôle afin d'améliorer continuellement l'enseignement dentaire et de permettre aux praticiens de se tenir plus facilement et plus efficacement à date dans tous les domaines de la dentisterie.

1. L'Association médicale de l'Oregon obligera ses membres à pratiquer sous peine d'expulsion. La Presse, Montréal le 11 juillet 1968.

A l'aide de nos voisins des Caraïbes

Une ligne imaginaire, le Tropique du Cancer, pas très éloignée de la pointe sud de la Floride, sépare deux mondes très différents l'un de l'autre. C'est là que commencent les Caraïbes avec ce cercle d'îles légendaires, les Antilles. Terres d'origine volcanique séparées par quelques îles de corail, elles s'étendent comme un collier et touchent presque le littoral de l'Amérique latine. Des influences indigènes et étrangères — indiennes, espagnoles, africaines, hollandaises, britanniques, françaises, hindoues, scandinaves, américaines ont façonné le mode de vie des Caraïbes et chaque territoire s'efforce d'élever le niveau de vie de ses habitants. Ils sont aidés dans cette tâche par de jeunes volontaires canadiens qui servent pendant une période de deux ans sous les auspices du Service universitaire canadien outre-mer (SUCO). Le Bureau de l'aide extérieure du gouvernement canadien donne une aide d'une autre sorte par les programmes de plus grande envergure qu'il administre. Entre les deux, il existe un genre d'aide très spécial qu'apporte le Service exécutif canadien outre-mer (SECO).

Ce service créé par la communauté des affaires du Canada a son siège social à Montréal. SECO recrute les experts les plus éminents dans le monde des affaires et dans le monde professionnel pour leur offrir des postes à court terme dans les pays en voie de développement qui ont besoin de leurs talents particuliers. Par l'intermédiaire de son conseil d'administration qui est recruté aux échelons supérieurs de l'industrie canadienne, SECO peut s'adresser directement aux bureaux de direction d'un grand nombre de compagnies canadiennes pour recruter le personnel qu'il lui faut. En fait, SECO a déjà établi une "banque" d'experts prêts à faire bénéficier les pays étrangers de leurs talents. L'extension de cette "banque" est l'un des objectifs permanents de SECO, qui cherche plus particulièrement à aider les pays en voie de développement à résoudre leurs problèmes de santé. Il existe un programme déjà bien établi, le programme conjoint SECO-Association médicale canadienne, qui envoie des médecins volontaires à St-Vincent, au Grand Cayman et à la Jamaïque pour y servir et y enseigner pendant de courtes périodes de temps. Les recrues ne reçoivent pas de salaire mais SECO paie leurs frais de voyage pour se rendre à leur poste et en revenir, et le pays qui les reçoit prend à sa charge leur logement et leur entretien. La raison d'être de ce programme est d'aider les pays bénéficiaires à arriver à subvenir eux-mêmes à leurs besoins médicaux et d'intensifier les relations amicales que nous entretenons avec nos voisins des Caraïbes.

SECO pense qu'il faudrait étudier les possibilités d'un programme similaire SECO-Association dentaire canadienne. L'ADC est prête à appuyer un projet conjoint de ce genre et le conseil exécutif a demandé que deux dentistes canadiens entreprennent une enquête préliminaire dans la région des Caraïbes. Ils visiteront différents territoires pour examiner sur place les problèmes dentaires locaux. Les renseignements ainsi obtenus permettront à SECO et à l'ADC de décider des tâches qu'ils assumeront.

L'ADC aidera aussi à préparer une liste de dentistes prêts à occuper un poste non rémunéré, pendant une période de 1 à 6 mois, là où leurs services seront requis, sous réserve d'un préavis raisonnable. Le dentiste qui accepte une telle mission devra être un individu spécial. Il faut bien entendu, que professionnellement il soit un expert, mais il est également important qu'il possède des qualités personnelles de tolérance et de compréhension, sans lesquelles le volontaire ne peut pas travailler efficacement. Il aura l'occasion de voyager et de se faire de nouveaux amis. Il trouvera une grande satisfaction à mettre ses connaissances et ses talents au service de nos voisins des Caraïbes, pour les aider à développer au maximum leurs propres ressources humaines.

letters • courrier

The editor reserves the right to edit all communications to fit available space and requires that all letters be signed.

La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Toute communication doit être signée.

Caribbean Aid Project

To the Editor:

I was interested to read your editorial in the January issue of the CDA Journal. I became acquainted with some of the dental problems by living on one of the Caribbean islands in an apartment for a short while three years ago. This type of living (rather than hotel) gave me the opportunity to talk, visit, shop for food and other necessities among the inhabitants who, upon learning of my profession, related their dental knowledge and experience to me.

The CDA should be commended for its efforts in proposing to survey the greatest of these needs and then attempting as a joint venture with CESO to make some contribution in helping these folk help themselves.

I would like to be kept abreast of this proposed venture with the hope of participating when plans are formulated. I would appreciate your forwarding this letter to the person on the executive with whom I could communicate in the future.

J. A. Anthony, DDS,
150 Berry Rd., Toronto, Ont.

To the Editor:

I have already visited more than eight major islands in the Caribbean.

If I can be of any help in accumulating information for you on Antigua, I would be pleased to do so.

L. C. Ringrose, DDS,
252 Raglan St. S., Renfrew, Ont.

**William Osler and
Charles H. Mayo**

To the Editor:

I freely acknowledge that in earlier years of practice I was more prone than today to accept, without verification, statements attrib-

uted to world-renowned persons. Let me refer to two:

William Osler: "There is not one single thing in preventive medicine that equals mouth hygiene and the preservation of the teeth."

Charles H. Mayo: "Seventy-five per cent of the more serious operations are abdominal; most of them could be avoided if people had clean mouths and chewed their food properly."

It is now bordering on 40 years since I first endeavoured to trace the above-mentioned to their source.

I wrote to Dr. Alfred Owre who, being unable to confirm either of them, very kindly passed my queries to Columbia University College of Physicians and Surgeons. However, in spite of an intensive search, the results proved negative. For instance, all likely items listed in Minnie Wright Blogg's *Bibliography of Sir William Osler* (1919, enl. ed. 1921) were studied, yet none yielded a successful outcome. In Osler's stimulating speech to students of the Royal Dental Hospital of London (Lancet 1905, p. 1210) no such opinion was expressed.

Other abortive inquiries included one addressed to Thomas McCrae, of Philadelphia, who collaborated with Osler in later editions of certain of his books.

When Charles H. Mayo was approached, he had no knowledge of ever having made such a claim.

Since then I have, at recurring intervals, endeavoured to trace the origins of these pronouncements, but without success.

I should be grateful if any of your readers could shed light on them.

J. Menzies Campbell, DDS, FDS,
70 Great George St.,
Glasgow W.2, Scotland.

To the Editor:

It is flattering to be regarded as an expert in the history of medicine and to have referred to me Dr. J. Menzies Campbell's letter. Although I have no means of ruling out the off-hand remarks attributed to Osler and Mayo I doubt very much that either of them uttered the words. Both of these historic figures were in demand as speakers to societies and it is possible that in addressing an audience of dentists they were carried away. Such sweeping generalizations were uncharacteristic however, and I think that somebody figuratively put the words in their mouths.

I am inclined to believe that these alleged quotations are further examples of the practice of literary mayhem and I find it a most frustrating experience to try to disprove a statement which is attributed to a respected figure.

A. D. Kelly, MB, DSc, LLd,
Managing Editor,
The Canadian Medical Association Journal,
150 St. George St., Toronto, Ont.

**Preliminary Program, National Convention
Canadian Dental Association
July 9-11, 1969**

Montréal

**Programme provisoire du congrès national
de l'Association dentaire canadienne
les 9, 10 et 11 juillet 1969**





PRESIDENTS' MESSAGE

COMMUNICATION DES PRESIDENTS

In the name of the Canadian Dental Association, I am pleased to invite you to Montreal next July for the national convention. Under the able management of Dr. Roger Charette, the Convention Committee is sparing no effort to make this meeting a success. Since 1969 also marks the centennial of the College of Dental Surgeons of the Province of Quebec, this will be an excellent opportunity for you to renew your friendly ties with colleagues from other parts of Canada.

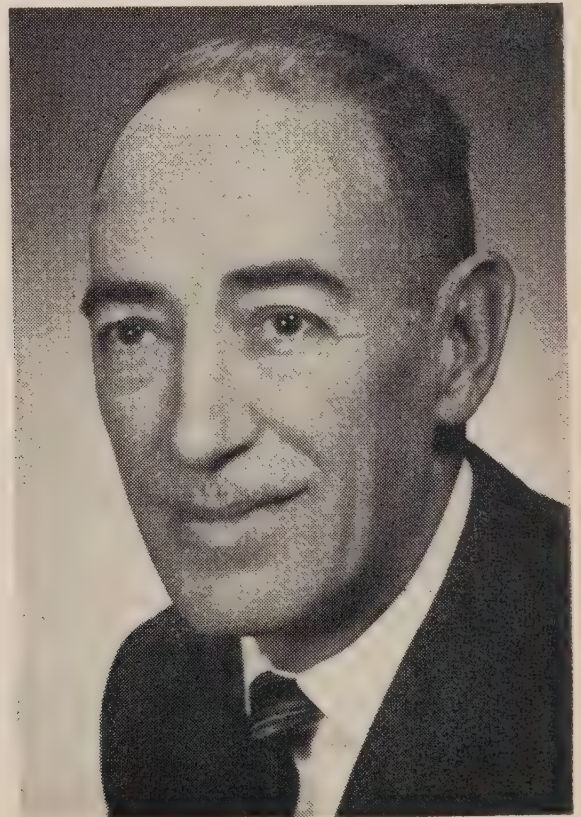
Au nom de l'Association dentaire canadienne, j'ai le plaisir de vous inviter à vous rendre à Montréal, en juillet 1969, pour assister au congrès national. Sous l'habile direction du Dr Roger Charette, le comité d'organisation se dépense sans compter pour que cette réunion soit un succès. Et puisque l'année 1969 marquera la centenaire du Collège des Chirugiens-Dentistes de la Province de Québec ce sera une excellente occasion de nous réunir pour célébrer cet anniversaire et renouer les liens d'amitié avec les confrères des autres provinces.

HENRI BROUILLET, President
Canadian Dental Association
Association dentaire canadienne

Au nom de mes confrères de la Belle Province, j'invite tous les dentistes du Canada à se joindre à nous pour célébrer le centenaire de la fondation du Collège des Chirurgiens-Dentistes de la Province de Québec. Au cours de ce siècle, notre profession a évolué à un rythme accéléré et a atteint le point de maturité dans son progrès. Plus encore, elle revêt un caractère personnel et typiquement canadien. Le miracle s'est accompli. Vous aurez d'ailleurs l'occasion de le constater et de l'apprécier en prenant une part active au programme scientifique que nous vous présenterons lors du congrès national. C'est le moment tout choisi pour se réunir et mieux se connaître et célébrer ensemble cet événement historique. Nous avons organisé à cette fin, un programme social grandiose pour vous et votre famille. L'hospitalité québécoise vous comblera! Emmenez toute la famille! Nous vous attendons tous!

On behalf of my confrères of 'La Belle Province' I invite all dentists throughout Canada to come and celebrate with us the centennial of the founding of the College of Dental Surgeons of the Province of Quebec. During the past hundred years our profession has progressed, achieved maturity, and become truly Canadian. A miracle was performed. You will appreciate this as you examine our scientific program for the national convention. We have this one occasion to unite, to become better acquainted and celebrate together an historic event. In view of this, an outstanding social program has been prepared for you, your wives and children. Quebec hospitality will please you! Bring the entire family! We expect you all!

MARCEL ARCHAMBAULT, Président
Collège des Chirurgiens-Dentistes de la Province de Québec





GENERAL INFORMATION

RENSEIGNEMENTS GÉNÉRAUX

Board of Governors Meeting

The annual meeting of the Board of Governors of the Canadian Dental Association will be held at the Queen Elizabeth Hotel July 7-9 inclusive. The meeting is open to all members of the Association who are urged to attend and participate in the deliberations.

National Convention

The national convention of the Canadian Dental Association begins on Wednesday July 9 and continues to Friday July 11.

Registration

Included in this issue of the Journal are a convention registration form and a hotel reservation form. Early registration is strongly recommended.

CONVENTION REGISTRATION

Mail your advance registration form to the CDA Convention Office, 1958 Dorchester West, Montreal 108.

Réunion du Conseil des Gouverneurs

La réunion annuelle du Conseil des Gouverneurs de l'Association dentaire canadienne débutera le 7 juillet à l'hôtel Reine Elizabeth, pour se poursuivre jusqu'au 9 juillet inclusivement. Tous les membres de l'ADC peuvent assister à ces dernières assises.

Le congrès national

Le congrès national de l'Association dentaire canadienne aura lieu du mercredi 9 juillet au vendredi 11 juillet.

Inscription

Vous trouverez dans le numéro de ce journal une formule d'inscription au congrès et une de réservation pour les hôtels de Montréal. Vu l'intérêt manifesté jusqu'à maintenant pour ce congrès, il serait sage de vous inscrire au plus tôt.

INSCRIPTION AU CONGRES

Envoyez vos inscriptions au soin du: Secrétariat du congrès de l'ADC, 1958 Dorchester ouest, Montréal 108.

HOTEL RESERVATION

Three major Montreal hotels (Queen Elizabeth, Bonaventure, Chateau Champlain) will hold a limited number of rooms for CDA convention delegates. Use only the official CDA hotel reservation form. Mail the completed form direct to the hotel of your choice.

RÉSERVATIONS D'HÔTEL

On a réservé un certain nombre de chambres aux hôtels suivants: Le Reine Elizabeth, Le Bonaventure, Le Château Champlain. Les congressistes doivent s'inscrire directement à l'hôtel de leur choix. Utilisez seulement la formule de réservation d'hôtel identifiant le congrès de l'ADC.

Canadian Dental Association

L'Association dentaire canadienne

Accommodation • Logement

Queen Elizabeth Hotel

Le Reine Elizabeth ☐
 900 Dorchester ouest
 Montréal, Québec

Single/lit simple ☐Double/lit double ☐

Bonaventure Hotel

Le Bonaventure ☐
 1 Place Bonaventure
 Montréal, Québec

Twin/lits jumeaux ☐

Le Château Champlain ☐
 Place du Canada
 Montréal, Québec

Suite ☐

Name/nom _____ No. pers. _____

Address/adresse _____

City/ville _____ Province _____

Arrival/arrivée _____ Time/heure _____

Departure/départ _____ Time/heure _____

Registration Desk

The registration desk will be open from 2.00 to 9.00 p.m. Tuesday July 8; and from 8.00 a.m. to 8.00 p.m. Wednesday July 9, Thursday July 10, and Friday July 11.

Scientific Program

The scientific program begins on Wednesday morning, July 9, at 9.00 a.m. at the Queen Elizabeth Hotel. The program has been arranged so as to permit delegates to attend most of the essays and clinical lectures.

Table Clinics

Table clinics are scheduled for Friday afternoon, the last day of the convention. Delegates can thus attend these clinics without missing other portions of the scientific program.

Commercial Exhibits

Commercial exhibits will be displayed from 9.00 a.m. July 9 to 12.00 noon July 11.

Luncheons

A Local Dental Societies Luncheon will be held Wednesday July 9 at 12.30 p.m. The College of Dental Surgeons of the Province of Quebec Luncheon is scheduled for Thursday July 10 at 12.30 p.m. The Canadian Dental Association Luncheon will be held Friday July 11 at 12.30 p.m.

Social Events

WELCOMING PARTY

Tuesday July 8, 6.00-10.00 p.m., in the Grand Salon of the Queen Elizabeth Hotel.

Bureau d'inscription

Le bureau d'inscription sera ouvert de 14 heures à 21 heures, mardi le 8 juillet; de 8 heures du matin à 20 heures, mercredi le 9 juillet, jeudi le 10 juillet et vendredi le 11 juillet.

Programme scientifique

La partie scientifique du congrès commence mercredi matin à 9 heures le 9 juillet, à l'hôtel Reine Elizabeth. Le programme a été agencé de telle façon que tous les participants du congrès pourront suivre presque toutes les conférences et cliniques.

Démonstrations cliniques

L'après-midi de la dernière journée du congrès a été consacrée uniquement à ces cliniques pratiques, de sorte que tous pourront y assister.

Exposition commerciale

L'exposition commerciale de tous les équipements et produits dentaires débutera mercredi le 9 juillet, à 9 heures et se terminera vendredi le 11, à midi.

Déjeuners

Mercredi le 9 juillet, à midi trente: les sociétés dentaires locales. Jeudi le 10 juillet, à midi trente: le Collège des Chirurgiens-Dentistes de la Province de Québec. Vendredi le 11 juillet, à midi trente: l'Association dentaire canadienne.

Programme social

BIENVENUE AUX CONGRESSISTES

Mardi le 8 juillet, de 6 à 10 heures du soir dans le Grand Salon de l'hôtel Reine Elizabeth.

CDSPQ CENTENNIAL CELEBRATION

A special Centennial Dinner is scheduled for Thursday evening, July 10. Typical French atmosphere. Excellent menu and wine. Some 15 dentists will be inducted as Chevaliers de Saint-Vincent.

PRESIDENT'S BALL

A dinner-dance in honour of President and Mrs. Henri Brouillet will be held in the Grand Salon of the Queen Elizabeth Hotel, Friday night, July 11.

For the Ladies**WELCOMING PARTY**

Tuesday July 8, 6.00-10.00 p.m., in the Grand Salon of the Queen Elizabeth Hotel.

CHINESE FIESTA

Wednesday noon at the Bonaventure Hotel with entertainment and dances.

CDSPQ CENTENNIAL CELEBRATION

Special Centennial Dinner in a typical French atmosphere, Thursday evening, July 10.

PETIT DEJEUNER FRANÇAIS

A brunch will be served in the Salle Bonaventure of the Queen Elizabeth Hotel, Friday July 11, 9.00-11.00 a.m.

FETE DU CENTENAIRE DU CCDPQ

Afin de donner au congrès une atmosphère française, le jeudi soir 10 juillet, il y aura grand dîner arrosé d'excellents vins. Une quinzaine de dentistes seront reçus Chevaliers de Saint-Vincent.

LE BAL DU PRESIDENT

Vendredi soir le 11 juillet, il y aura grand dîner en l'honneur du Président et de Mme Henri Brouillet dans le Grand Salon de l'hôtel Reine Elizabeth.

Pour les dames**BIENVENUE AUX CONGRESSISTES**

Mardi le 8 juillet, de 6 à 10 heures du soir dans le Grand Salon de l'hôtel Reine Elizabeth.

FETE CHINOISE

Mercredi midi à l'hôtel Bonaventure avec spectacle et dances.

FETE DU CENTENAIRE DU CCDPQ

Le jeudi soir 10 juillet, il y aura grand dîner arrosé d'excellents vins. Une quinzaine de dentistes seront reçus Chevalier de Saint-Vincent.

PETIT DEJEUNER FRANÇAIS

De 9 à 11 heures, vendredi le 11 juillet, le petit déjeuner sera servir dans la Salle Bonaventure de l'hôtel Reine Elizabeth.

MONTREAL

National Convention
Canadian Dental Association
July 9-11, 1969

Congrès national
L'Association dentaire canadienne
les 9, 10 et 11 juillet 1969

Registration • Inscription

Name/nom _____

Address/adresse _____

City/ville _____ Province _____

Wife's name/nom de l'épouse _____

Please check appropriate squares:

Convention fee \$40: includes three luncheons, Tuesday welcoming party and Thursday night CDSPQ centennial celebration

☐

SVP pointer les cases appropriées:

L'inscription au congrès de \$40 comprend: trois déjeuners, la réception de bienvenue aux congressistes mardi soir, la fête du centenaire du CCDPQ jeudi soir

Ladies' convention fee \$15: includes Tuesday welcoming party, Wednesday noon Chinese Fiesta, Thursday night CDSPQ centennial celebration and Friday Petit Déjeuner Français.

☐

L'inscription des épouses de \$15 comprend: la réception de bienvenue aux congressistes mardi soir, la fête chinoise mercredi midi, la fête du centenaire du CCDPQ jeudi soir, et le petit déjeuner français vendredi matin

President's Ball at the Queen Elizabeth Hotel Friday night July 11: \$25 per couple

☐

Le Bal du Président, le vendredi soir 11 juillet, à l'hôtel Reine Elizabeth: \$25 le couple

Cheque enclosed for \$ _____

Ci-joint un chèque au montant de \$ _____

Mail completed form and cheque to: CDA Convention Office, Suite 2, 1958 Dorchester West, Montreal 108, Quebec.

Veillez remplir cette formule et la renvoyer avec votre chèque au Secrétariat du congrès de l'ADC, suite 2, 1958 Dorchester ouest, Montréal 108, Québec.

SCIENTIFIC PROGRAM

PROGRAMME SCIENTIFIQUE

Wednesday, July 9

- 9:00 Herman Corn, Levittown,
Pennsylvania
Periodontic therapy as practised
today
- 9:00 F. L. Jacobson, Seattle
Restoration of extensively involved
teeth through the use of amalgam
- 9:00 P. R. Dow, Vancouver
Practical approach to endodontics;
case evaluation and treatment plan-
ning
- 9:00 T. C. Levitas, Atlanta
Manage the parent; treat the child
- 10:00 Roger Grégoire, Montreal
Tooth preparation for optimum gin-
gival adaptation of crowns
- 10:30 Herman Corn, Levittown,
Pennsylvania
Periodontic therapy as practised
today (repeated)
- 2:30 L. I. Grossman, Philadelphia
Endodontic practice; 'information
please'
- 2:30 F. L. Jacobson, Seattle
Restoration of extensively involved
teeth through the use of amalgam
- 2:30 C. Vosberg, Montreal
Aesthetics in dentistry
- 3:30 P. H. Demoge, Paris, France
Dental education in France

Mercredi, le 9 juillet

- 9h. Herman Corn, Levittown,
Pennsylvanie
Les méthodes contemporaines de
traitement en périodontie
- 9h. F. L. Jacobson, Seattle
La reconstruction en amalgame de
couronnes très avariées
- 9h. P. R. Dow, Vancouver
Une méthode pratique en endodon-
tie; choix des cas et plans de traite-
ment
- 9h. T. C. Levitas, Atlanta
Eduquons les parents; traitons
l'enfant!
- 10h. Roger Grégoire, Montréal
La technique de la préparation des
dents en vue d'obtenir un meilleur
scellement périphérique
- 10h.30 Herman Corn, Levittown,
Pennsylvanie
Les méthodes contemporaines de
traitement en périodontie (répétée)
- 2h.30 L. I. Grossman, Philadelphie
L'exercice de l'endodontie; "ren-
seignements, s'il vous plaît"
- 2h.30 F. L. Jacobson, Seattle
La reconstruction en amalgame de
couronnes très avariées
- 2h.30 C. Vosberg, Montréal
L'esthétique en dentisterie
- 3h.30 P. H. Demoge, Paris, France
L'éducation dentaire en France



Canadian National

Thursday, July 10

- 9:00 R. B. MacIntosh, Detroit
Orthodontic surgery
- 9:00 Université de Montréal panel
Gérard de Montigny, moderator
J. M. Fortin, Montreal
Corrective orthodontics
J. Turgeon, Montreal
The importance of centric relation
and habitual occlusion
L. P. Lemay, Montreal
Occlusal adjustment in restorative
dentistry
- 9:00 Jacques Fiset, Montreal
Rational use of telescopic attach-
ments combined with the centre-
poise type of partial denture
- 9:00 Peter Ruderman, Toronto
The public health dentist; a man
who cares
- 9:00 T. C. Levitas, Atlanta
The difficult child; an approach that
works
- 9:00 J. D. Townsend, Montreal
Pin retention for individual restora-
tions

Jeudi, le 10 juillet

- 9h. R. B. MacIntosh, Détroit
La chirurgie orthodontique
- 9h. Université de Montréal: panel
Gérard de Montigny, président
J. M. Fortin, Montréal
Les corrections par l'orthodontie
J. Turgeon, Montréal
L'importance de l'occlusion cen-
trique et celle de l'occlusion acquise
L. P. Lemay, Montréal
L'équilibre de l'occlusion en den-
tisterie restaurative
- 9h. Jacques Fiset, Montréal
L'usage rationnel des attaches télé-
scopiques avec les prothèses par-
tielles du type "centre poise"
- 9h. Peter Ruderman, Toronto
Le dentiste hygiéniste; un homme
qui se penche sur les problèmes de
la population
- 9h. T. C. Levitas, Atlanta
L'enfant "problème"; une façon de
procéder qui donne de bons résultats
- 9h. J. D. Townsend, Montréal
L'emploi de tiges métalliques en
restauration

10:00 P. V. Reid, Bryn Mawr,
Pennsylvania
The importance of teamwork and
timing in the treatment of occlusal
problems (Grieve Memorial Lecture)

10:00 L. E. Kent, Montreal
Electrosurgery for the general prac-
titioner

10:00 Z. B. Nyeste, Montreal
Total dental care

10:30 J.-P. Lussier, Montreal
Dental needs of the Canadian popu-
lation

11:00 S. Galperin, Montreal
The interdental papilla; a critical
clinical unit

2:30 McGill University panel
L. E. Francis, moderator
K. C. Bentley, R. W. Faith,
E. R. Ambrose, Araceli Ortiz,
G. H. Weinlander
Differential diagnosis in restorative
dentistry

2:30 R. J. Cassidy, New York
Communication and motivation in
preventive dentistry (CDA essay
presentation)

3:45 E. A. Androutsos, Montreal
Porcelain fused to gold

10h. P. V. Reid, Bryn Mawr,
Pennsylvanie
L'importance du travail d'équipe et
de la séquence dans les traitements
des problèmes d'occlusion (confé-
rence Grieve Memorial)

10h. L. E. Kent, Montréal
L'emploi de l'électro-chirurgie pour
l'omnipraticien

10h. Z. B. Nyeste, Montréal
Traitement dentaire global

10h.30 J.-P. Lussier, Montréal
Besoins dentaires de la population
canadienne

11h. S. Galperin, Montréal
La papille interdentaire; une en-
tité clinique essentielle

2h.30 Université McGill: panel
L. E. Francis, président
K. C. Bentley, R. W. Faith,
E. R. Ambrose, Araceli Ortiz,
G. H. Weinlander
Le diagnostic différentiel en dentis-
terie restaurative

2h.30 R. J. Cassidy, New York
Comment créer de l'intérêt pour la
dentisterie préventive? (conférence-
thème de l'ADC)

3h.45 E. A. Androutsos, Montréal
Or et porcelaine

Friday, July 11

9:00 N. Fee, Plattsburg, New York
Myofunctional therapy in dentistry

9:00 Geriatric panel
M. B. Archambault, Montreal,
moderator
E. D. Sherman, Montreal; Arthur
Elfenbaum, Chicago; H. H. Pearson,
Montreal

Vendredi, le 11 juillet

9h. N. Fee, Plattsburg, New York
Thérapie musculaire en dentisterie

9h. Panel sur la gériatrie
M. B. Archambault, Montréal,
président
E. D. Sherman, Montréal; Arthur
Elfenbaum, Chicago; H. H. Pearson,
Montréal

- | | |
|---|--|
| 9:00 M. M. Dines and C. Durand,
Montreal
Periodontic 'teach-in' | 9h. M. M. Dines et C. Durand,
Montréal
"Teach-in" en périodontie |
| 9:00 D. Taylor, Montreal
The general practitioner and complete dentistry | 9h. J. M. Albert, Joliette, Québec
L'art dentaire et la psychiatrie |
| 10:00 John Vincelli, Montreal
The role of anterior guidance in mandibular physiology | 9h. D. Taylor, Montréal
L'omnipraticien face à un traitement dentaire à fond |
| 10:30 J. M. Albert, Joliette, Quebec
Interlocking sciences: dentistry and psychiatry | 10h. John Vincelli, Montréal
Le rôle du plan de guidance incisif antérieur dans la physiologie mandibulaire |
| 10:30 H. L. Levitt and M. Gornitsky,
Montreal
Orthodontics and oral surgery coordinated; procedures of interest to the general practitioner | 10h.30 H. L. Levitt et M. Gornitsky,
Montréal
Coordonnons l'orthodontie et la chirurgie buccale; méthodes de traitements d'un intérêt particulier pour l'omnipraticien |
| 11:00 C. Patenaude, Montreal
Treatment resin for the mucosa | 11h. C. Patenaude, Montréal
Traitement des muqueuses par la résine molle |
| 2:30 Table clinics (all afternoon) | 2h.30 Démonstrations cliniques (toute l'après-midi) |



ESSAYISTS AND CLINICIANS

CONFERENCIERS ET CLINICIENS

ROBERT B. MacINTOSH, Detroit

Oral surgeon, Henry Ford Hospital, Detroit. Formerly assistant in the Department of Oral and Maxillofacial Surgery, Dental Institute, University of Zurich. Diplomate, American Board of Oral Surgery.

RICHARD J. CASSIDY, New York

President of Decision Research Corporation of New York. Director of the Institute for Policy Development.

PAUL V. REID, Bryn Mawr, Pennsylvania

Former chairman (1952-68) of the Department of Orthodontics, School of Dental Medicine, University of Pennsylvania. Fellow of the Academy of International Dentistry.

HERMAN CORN, Levittown, Pennsylvania

Assistant professor, Department of Periodontics, School of Dental Medicine, University of Pennsylvania. Diplomate, American Board of Periodontology. Contributing author to a textbook on periodontic therapy.

F. L. JACOBSON, Seattle, Washington

Chairman, Department of Oral Diagnosis and Radiology, University of Washington School of Dentistry. Vice-president of the American Academy of Dental Radiology.

THEODORE C. LEVITAS, Atlanta, Georgia

Director of paedodontics, Ben Massel Dental Clinic, Atlanta

ROBERT B. MacINTOSH, Détroit

Chirurgien buccal attaché à l'hôpital Henry Ford, Détroit. Stagiaire d'une année à titre d'assistant dans le département de chirurgie maxillo-faciale à l'Institut de médecine dentaire de l'Université de Zurich. Certifié de l'American Board of Oral Surgery.

RICHARD J. CASSIDY, New York

Président de la Decision Research Corporation de New York. Directeur de l'Institute for Policy Development.

PAUL V. REID, Bryn Mawr, Pennsylvanie

Autrefois directeur (1952-68) du département d'orthodontie à la Faculté de médecine dentaire de l'Université de Pennsylvanie. Fellow de l'International Academy of Dentistry.

HERMAN CORN, Levittown, Pennsylvanie

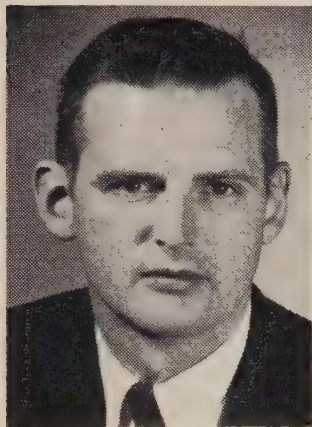
Professeur assistant, département de périodontie, Faculté de médecine dentaire de l'Université de Pennsylvanie. Certifié de l'American Board of Periodontology. A contribué à la rédaction d'un livre sur la périodontie.

F. L. JACOBSON, Seattle, Washington

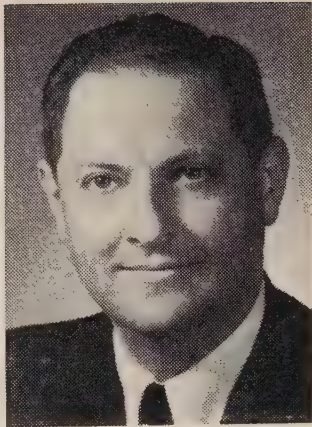
Directeur, département de diagnostic et de radiologie, Faculté dentaire de l'Université de Washington. Vice-président de l'American Academy of Dental Radiology.

THEODORE C. LEVITAS, Atlanta, Georgia

Chef de clinique de pédodontie, Ben Massel Dental Clinic, Atlanta.



R. B. MacIntosh



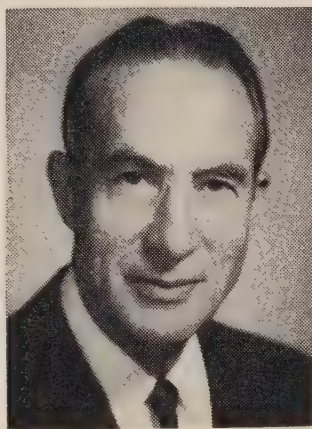
Herman Corn



P. V. Reid



R. J. Cassidy



L. I. Grossman



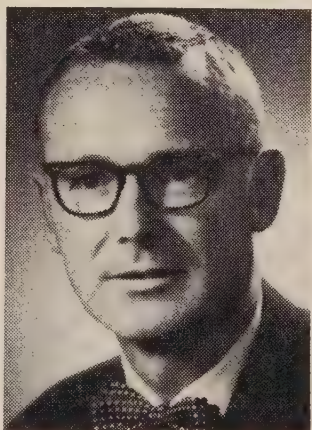
T. C. Levitas



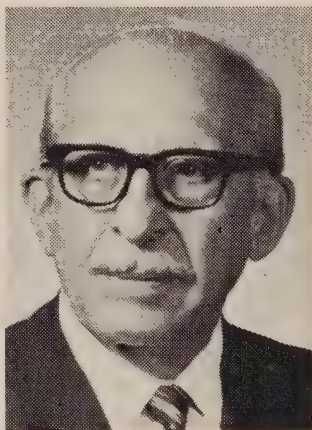
F. L. Jacobson



E. D. Sherman



P. R. Dow



H. H. Pearson



Arthur Elfenbaum

LOUIS I. GROSSMAN, Philadelphia

Professor of oral medicine, School of Dental Medicine, University of Pennsylvania. Director of the endodontic program, Division of Advanced Dental Education. President of the American Board of Endodontics. Author of *Endodontic Practice* and editor of the *Handbook of Dental Practice*.

LOUIS I. GROSSMAN, Philadelphie

Professeur de médecine buccale à la Faculté de médecine dentaire de l'Université de Pennsylvanie. Directeur du programme des cours d'appoint en endodontie. Président de l'American Board of Endodontics. Auteur de *Endodontic Practice* et rédacteur du *Handbook of Dental Practice*.

PIERRE R. DOW, Vancouver

Former professor of endodontics, University of Washington School of Dentistry.

PIERRE R. DOW, Vancouver

Autrefois professeur d'endodontie à la Faculté dentaire de l'Université de Washington.

ARTHUR ELFENBAUM, Chicago

Professor emeritus of the University of Illinois and Northwestern University. Senior attending member of the medical staff, Michael Reese Hospital. Honorary president of the American Society for Geriatric Dentistry.

ARTHUR ELFENBAUM, Chicago

Professeur émérite de l'Université de l'Illinois et Northwestern. Membre du corps médical de l'hôpital Michael Reese. Président honoraire de l'American Society for Geriatric Dentistry.

HYMAN H. PEARSON, Montreal

Founder and past president of the Montreal Endodontic Society. Charter member and past president of the Mount Royal Dental Society.

HYMAN H. PEARSON, Montréal

Membre fondateur et ancien président de la Société d'endodontie de Montréal. Membre fondateur et ancien président de la Mount Royal Dental Society.

E. DAVID SHERMAN, Montreal

Director of Research, Rehabilitation Institute of Montreal. Associate physician-in-chief, Maimonides Hospital and Home for the Aged. Vice-president, Institute of Gerontology, Université de Montréal.

E. DAVID SHERMAN, Montréal

Directeur du département de recherche, Institut de réhabilitation de Montréal. Médecin-en-chef associé, hôpital Maimonides. Vice-président, Institut de Gérontologie, Université de Montréal.



SECTIONS AND SPECIAL GROUPS

SECTIONS ET GROUPES SPECIAUX

Canadian Society of Dentistry for Children Canadian Academy of Paedodontics

Both groups will jointly sponsor a two day meeting on Wednesday and Thursday July 9-10. The sessions are open to all convention delegates.

WEDNESDAY, JULY 9

- 9:00 T. C. Levitas, Atlanta
Manage the parents; treat the child
- 10:45 G. E. Albert, Montreal
(topic to be announced)
- 2:00 Clinicians (names and topics to be announced)
- 3:30 Business meeting

THURSDAY, JULY 10

- 9:00 T. C. Levitas, Atlanta: The difficult child patient; an approach that works
- 10:45 Georges Perrault, Montreal
(topic to be announced)
- 2:00 Presentation by the Paedodontic Department, Faculty of Dental Surgery, Université de Montréal

Canadian Academy of Endodontics

A two day program is scheduled for Tuesday and Wednesday July 8-9 at the Queen Elizabeth Hotel.

MONDAY, JULY 7

Hospitality room open for early registration

TUESDAY, JULY 8

- 8:00 Registration
- 9:15 K. C. Bentley, Montreal: Basic requirements of an adequate physical examination for dental patients
- K. Melville, Montreal: The corticosteroids

La société canadienne de dentisterie pour les enfants

L'académie canadienne de pédodontie

Les membres de ces deux groupes se réuniront les 9 et 10 juillet (mercredi et jeudi) à l'occasion du congrès de l'ADC. Les assises seront ouvertes à tous les membres du congrès.

MERCREDI, LE 9 JUILLET

- 9h. T. C. Levitas, Atlanta:
Eduquons les parents; traitons l'enfant!
- 10h.45 G. E. Albert, Montréal
(sujet à venir plus tard)
- 2h. Cliniciens (les noms et les sujets seront dévoilés plus tard)
- 3h.30 Assemblée plénière

JEUDI, LE 10 JUILLET

- 9h. T. C. Levitas, Atlanta: L'enfant problème en dentisterie; une façon de procéder qui donne de bons résultats
- 10h.45 Georges Perrault, Montréal
(sujet à venir plus tard)
- 2h. Conférences et démonstrations cliniques présentées par le département de pédodontie de la Faculté de chirurgie dentaire, Université de Montréal

L'académie canadienne d'endodontie

Les assises scientifiques débiteront le mardi 8 juillet pour se terminer le mercredi 9 juillet à l'hôtel Reine Elizabeth.

LUNDI, LE 7 JUILLET

Salon de courtoisie pour accueillir les congressistes

MARDI, LE 8 JUILLET

- 8h. Inscription
- 9h.15 K. C. Bentley, Montréal: Examens de

Joan deVries, Montreal: The antibiotics
M. R. Reesal, Montreal: The thyroid
and parathyroid glands

12:15 Luncheon

2:00 L. I. Grossman, Philadelphia: Essay

4:30 Executive meeting

7:30 Banquet

WEDNESDAY, JULY 9

9:00 P. R. Dow, Vancouver: Practical approach to endodontics: case evaluation and treatment planning (French essay presented at the General Scientific Program)

10:15 C. D. Torneck, Toronto: Considerations in endodontic diagnosis
Isadore Wolch, Winnipeg: Problems in endodontics
Clifford Ames, Vancouver: Errors and problems in the diagnosis of difficult dental pain

12:00 Luncheon

1:30 Harvey Weiner, Boston: A comparative study of important properties of various root canal sealers
R. L. Tegart, Edmonton: Some aspects of dental pulp metabolism
Raymond Robitaille, Montreal (topic to be announced)

3:00 Business meeting

Canadian Society of Orthodontists

A three day meeting is scheduled for Wednesday to Friday July 9-11. Registration will be at the Queen Elizabeth Hotel. Scientific sessions will be held at the Chateau Champlain Hotel (CC) or at the Queen Elizabeth Hotel (QE).

WEDNESDAY, JULY 9

9:00 Business meeting. Active members (CC)

10:00 J. R. Valinoti, Manhasset, New York: Root resorption; everyone's problem (CC)

2:00 S. M. Bien, New York: Mechanism of tooth movement (CC)

3:30 P. H. Demoge, Paris: Dental education in France (QE)

THURSDAY, JULY 10

9:00 R. B. MacIntosh, Detroit: Orthodontic surgery (QE)

10:15 P. V. Reid, Bryn Mawr, Pennsylvania: The importance of teamwork and timing in the treatment of occlusal problems (Grieve Memorial Lecture) (QE)

2:00 Business meeting. Active members (CC)

3:00 David Marshall, Syracuse, New York: Spheno-ethmoid complex (CC)

base nécessaires pour évaluer la santé physique d'un patient dentaire

K. Melville, Montréal: Les cortico-stéroïdes

Joan deVries, Montréal: Les antibiotiques

M. R. Reesal, Montréal: Les glandes thyroïde et parathyroïdes

12h.15 Déjeuner

2h. L. I. Grossman, Philadelphie: Conférence

4h.30 Réunion du bureau de l'exécutif

7h.30 Dîner

MERCREDI, LE 9 JUILLET

9h. P. R. Dow, Vancouver: Une méthode pratique en endodontie; choix des cas et plans de traitement (conférence présentée en français et ouverte à tous les congressistes)

10h.15 C. D. Torneck, Toronto: Etude sur le diagnostic en endodontie
Isadore Wolch, Winnipeg: Problèmes en endodontie
Clifford Ames, Vancouver: Erreurs et problèmes rencontrés dans le diagnostic d'une douleur dentaire difficile à localiser

12h. Déjeuner

1h.30 Harvey Weiner, Boston: Comparaison des caractéristiques les plus importantes de différents ciments de scellement pour les canaux radiculaires
R. L. Tegart, Edmonton: Quelques aspects du métabolisme de la pulpe
Raymond Robitaille, Montréal (sujet à venir plus tard)

3h. Assemblée plénière

La société canadienne des orthodontistes

La société se réunira les 9, 10 et 11 juillet (mercredi, jeudi et vendredi). L'inscription se fera à l'hôtel Reine Elizabeth. Les réunions scientifiques se tiendront soit à l'hôtel Château Champlain (CC), soit à l'hôtel Reine Elizabeth (RE), tel qu'indiqué.

MERCREDI, LE 9 JUILLET

9h. Assemblée plénière. Membres actifs (CC)

10h. J. R. Valinoti, Manhasset, New York: La résorption radiculaire; un problème qui concerne tous les dentistes (CC)

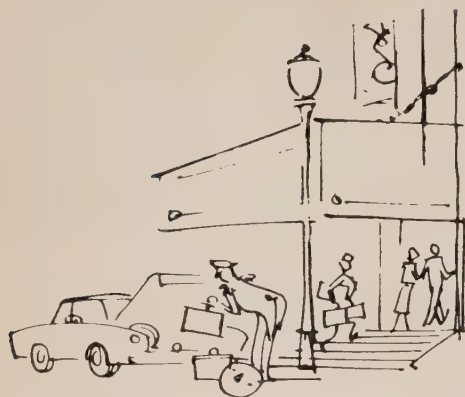
2h. S. M. Bien, New York: Le mécanisme du mouvement des dents (CC)

3h.30 P. H. Demoge, Paris: L'éducation dentaire en France (RE)

JEUDI, LE 10 JUILLET

9h. R. B. MacIntosh, Détroit: La chirurgie orthodontique (RE)

10h.15 P. V. Reid, Bryn Mawr, Pennsylvanie: L'importance du travail d'équipe et de



FRIDAY, JULY 11

- 9:00 Business meeting. Active members (CC)
- 10:00 P. H. Demoge, Paris: Essay (CC)
- 11:00 Claude Baril and graduate students of the Université de Montréal (CC)

Canadian Academy of Periodontology

A two day meeting is scheduled for Tuesday and Wednesday July 8-9 at the Queen Elizabeth Hotel. Wednesday's scientific sessions are open to all convention delegates.

TUESDAY, JULY 8

- 9:00 Gilles Lamoureux, Montreal: Immunology and transplantation
- 10:30 Herman Corn, Levittown, Pennsylvania: Current advances in therapy and concepts of periodontology
- 1:30 Herman Corn: Continuation of morning essay
- 3:15 E. J. Rajczak, Hamilton: Effect of splinting on the periodontium
- 4:30 Herman Corn and E. J. Rajczak: Seminar and discussion

WEDNESDAY, JULY 9

- 9:00 Business meeting
- 2:00 Herman Corn: Continuation of previous day's essay
- 4:30 Question and answer period

Canadian Academy of Prosthodontics and Canadian Academy of Restorative Dentistry

A two day joint meeting of both academies is scheduled for Monday and Tuesday July 7-8 at the Faculty of Dental Surgery, Université de Montréal. The theme of the meeting is 'The Contribution of Restorative Dentistry to the Partially Edentulous Patient.' Morning sessions will be devoted to essay-

la séquence dans les traitements des problèmes d'occlusion (Conférence Grieve Memorial) (RE)

- 2h. Assemblée plénière. Membres actifs (CC)
- 3h. David Marshall, Syracuse, New York: Le complexe sphéno-ethmoïde (CC)

VENDREDI, LE 11 JUILLET

- 9h. Assemblée plénière. Membres actifs (CC)
- 10h. P. H. Demoge, Paris: Conférence (CC)
- 11h. Claude Baril et étudiants de l'Université de Montréal (CC)

L'académie canadienne de périodontologie

L'académie se réunira les 8 et 9 juillet (mardi et mercredi) à l'hôtel Reine Elizabeth. Tous les membres du congrès pourront suivre les réunions scientifiques du mercredi 9 juillet.

MARDI, LE 8 JUILLET

- 9h. Gilles Lamoureux, Montréal: Immunologie et transplantation
- 10h.30 Herman Corn, Levittown, Pennsylvania: Méthodes contemporaines de traitement et nouveaux principes en périodontie
- 1h.30 Herman Corn: Suite de la conférence du matin
- 3h.15 E. J. Rajczak, Hamilton: Effets de la fixation des dents sur le parodontium
- 4h.30 Herman Corn et E. J. Rajczak: Colloque et discussion

MERCREDI, LE 9 JUILLET

- 9h. Assemblée plénière
- 2h. Herman Corn: Suite de sa conférence
- 4h.30 Colloque: Période de questions et réponses

L'académie canadienne de prosthodontie et L'académie canadienne de dentisterie de restauration

Les membres de ces deux groupes se réuniront les 7 et 8 juillet (lundi et mardi) à la Faculté de chirurgie dentaire de l'Université de Montréal. Le thème de la réunion sera "La contribution de la dentisterie restauratrice aux patients partiellement édentés". Les cliniciens invités donneront leurs conférences dans la matinée, tandis que les après-midi seront consacrés aux démonstrations sur patients et aux démonstrations cliniques.

ists. Clinical demonstrations, chairside demonstrations and table clinics are scheduled for the afternoons.

ESSAYISTS

- F. J. Jacobson, Seattle: Radiological considerations in restorative treatment planning
 J. E. Ryan, London: Partial denture planning and professional responsibility
 T. J. Harrop, Vancouver: Prosthodontic treatment is challenged; the basic sciences
 Roger Grégoire, Montreal: Tooth preparation for optimum gingival adaptation in crowns
 Melvyn Shevell, Montreal: Control of stresses applied to abutment teeth in free end partial dentures
 J. E. Grasso, Halifax: Variations in centric relation registrations
 A. T. Storey, Toronto: A physiologist looks at articulators.

CLINICIANS

- Guy Boyer, Montreal
 D. C. Gordon, Montreal
 J. E. Grasso, Halifax
 Jean Guimond, Montreal
 R. Lambert, Granby, Qué.
 B. L. Mendel, Montreal
 L. A. Richardson, Ottawa
 J. E. Ryan, London
 R. E. Wallace, Winnipeg
 G. A. Zarb, Toronto

Canadian Society of Public Health Dentists

A one day meeting is scheduled for Thursday July 10 at the Queen Elizabeth Hotel.

THURSDAY, JULY 10

- 9:00 Peter Ruderman, Toronto: The public health dentist; a man who cares
 2:00 J.-P. Lussier, Montreal: Dental needs of the Canadian population
 3:30 Business meeting

CONFERENCIERS

- F. L. Jacobson, Seattle: Les interprétations radiologiques pour établir un plan de traitement en dentisterie restauratrice
 J. E. Ryan, London: Le plan de la prothèse partielle et la responsabilité professionnelle
 T. J. Harrop, Vancouver: Le défi aux traitements de prothèse; les sciences de base
 Roger Grégoire, Montréal: La technique de la préparation des dents en vue d'obtenir un meilleur scellement périphérique
 Melvyn Shevell, Montréal: Le contrôle des forces exercées sur les dents d'ancrage pour les prothèses partielles à selle postérieure libre
 J. E. Grasso, Halifax: Les variations dans l'enregistrement de la relation en occlusion centrique.
 A. T. Storey, Toronto: Regards d'un physiologiste sur les articulateurs

CLINICIENS

- Guy Boyer, Montréal
 D. C. Gordon, Montréal
 J. E. Grasso, Halifax
 Jean Guimond, Montréal
 R. Lambert, Granby, Qué.
 B. L. Mendel, Montréal
 L. A. Richardson, Ottawa
 J. E. Ryan, London
 R. E. Wallace, Winnipeg
 G. A. Zarb, Toronto

La société canadienne des dentistes hygiénistes

La société se réunira le jeudi 10 juillet à l'hôtel Reine Elizabeth.

JEUDI, LE 10 JUILLET

- 9h. Peter Ruderman, Toronto: Le dentiste hygiéniste; un homme qui se penche sur les problèmes de la population
 2h. J.-P. Lussier, Montréal: Besoins dentaires de la population canadienne
 3h.30 Assemblée plénière





DENTAL HYGIENISTS

LES HYGIENISTES DENTAIRES

The sixth annual convention of the Canadian Dental Hygienists Association will be held Tuesday to Friday July 8-11 at the Queen Elizabeth Hotel, Montreal.

Le sixième congrès annuel de l'Association canadienne des hygiénistes dentaires débutera le mardi 8 juillet pour se poursuivre jusqu'au vendredi 11 juillet. Le programme se déroulera à l'hôtel Reine Elizabeth.

TUESDAY, JULY 8

1:00 First session of board meeting. Dental hygienists' suite

WEDNESDAY, JULY 9

1:00 Second session of board meeting. Dental hygienists' suite

1:00 Registration

7:00 Wine and cheese tasting party

THURSDAY, JULY 10

8:00 Registration

9:00 Milton Dines, Montreal: Essay Part 1

10:30 Panel discussion

12:00 Luncheon. Invited speakers: two representatives from the American Dental Hygienists Association

2:00 CDHA general meeting

6:30 Board buses for dinner at Hélène de Champlain Manor, St. Helen's Island

FRIDAY, JULY 11

9:00 Allen Wainberg, Montreal: Special problems in dental hygiene. Essay Part 2

12:00 Luncheon. Installation of officers

2:00 Table clinics

4:00 Board buses for walking tour of Old Montreal

8:00 Theatre night. Block reservations will be made

MARDI, LE 8 JUILLET

1h. Première réunion de l'exécutif, tenue dans la suite réservée pour les hygiénistes

MERCREDI, LE 9 JUILLET

1h. Deuxième réunion de l'exécutif, tenue dans la suite réservée pour les hygiénistes

1h. Inscription

7h. Dégustation de vins et fromages

JEUDI, LE 10 JUILLET

8h. Inscription

9h. Milton Dines, Montréal: conférence

10h.30 Colloque

12h. Déjeuner. Conférenciers invités: deux représentants de l'American Dental Hygienists Association

2h. Assemblée générale de l'association

6h.30 Départ en autobus pour le dîner au restaurant Hélène de Champlain sur l'île Ste Hélène

VENDREDI, LE 11 JUILLET

9h. Allen Wainberg, Montréal: Problèmes spéciaux en hygiène dentaire

12h. Déjeuner. Entrée en fonction du nouvel exécutif

2h. Démonstrations cliniques

4h. Départ en autobus pour un tour du vieux Montréal

8h. Théâtre. Des réservations seront faites pour assister à une pièce de théâtre.

DENTAL ASSISTANTS

LES ASSISTANTES DENTAIRES

The twenty-second annual convention of the Canadian Dental Nurses and Assistants Association will be held Tuesday to Friday July 8-11 at the Queen Elizabeth Hotel, Montreal.

TUESDAY, JULY 8

7:00 Board of Governors meeting

WEDNESDAY, JULY 9

8:00 Registration

9:30 Opening ceremony

10:30 Discussion: National certification for dental assistants in Canada

1:30 Table clinics

4:00 Visit to Université de Montréal

THURSDAY, JULY 10

9:00 Essayists (names and topics to be announced)

11:00 Commercial exhibits

12:00 Luncheon. L'Association des Assistantes Dentaires de Montréal is the host organization

2:30 R. J. Cassidy, New York: communication and motivation in preventive dentistry

FRIDAY, JULY 11

9:00 Annual meeting. Election and installation of officers

2:30 Table clinics

6:30 Dinner. Montreal Dental Nurses and Assistants Association is the host organization. Trophy presentation

Le vingt-deuxième congrès annuel de l'Association canadienne des infirmières et assistantes dentaires débutera le mardi 8 juillet pour se poursuivre jusqu'au vendredi 11 juillet. Le programme se déroulera à l'hôtel Reine Elizabeth.

MARDI, LE 8 JUILLET

7h. Réunion du Bureau des Gouverneurs

MERCREDI, LE 9 JUILLET

8h. Inscription

9h.30 Ouverture officielle du congrès

10h.30 Discussion: La certification nationale pour les assistantes dentaires du Canada

1h.30 Démonstrations cliniques

4h. Visite à l'Université de Montréal

JEUDI, LE 10 JUILLET

9h. Conférenciers (les noms et les sujets seront dévoilés plus tard)

11h. Visite aux exposants commerciaux

12h. Déjeuner. L'Association des assistantes dentaires de Montréal (hôteses)

2h.30 R. J. Cassidy, New York: Comment créer de l'intérêt pour la dentisterie préventive?

VENDREDI, LE 11 JUILLET

9h. Assemblée annuelle. Election, entrée en fonction de la nouvelle administration

2h.30 Démonstrations cliniques

6h.30 Dîner. La Montreal Dental Nurses and Assistants Association (hôteses). Présentation des trophées



The Association

Committee Votes to Drop Regrouping of Specialties

The CDA Specialists and Specialization Committee will recommend to the Board of Governors that a proposal to group specialties into divisions (tentatively: stomatology, restorative dentistry, social and preventive dentistry) be abandoned. The decision was reached on January 8 following consideration of viewpoints expressed by corporate members and specialty sections.

Last year the Board of Governors asked the Specialists and Specialization Committee to consult corporate members and specialty sections about specialty regrouping and present a further report to the 1969 annual meeting. Subsequent correspondence disclosed widespread opposition to the proposal.

President Brouillet Visits West

CDA President Henri Brouillet is visiting dental societies in central and western Canada during the first half of 1969.

He attended meetings in Winnipeg January 24-25 (Manitoba Dental Association) and Toronto February 24-28 (CDA Aims and Objectives Conference, CDA Executive Council). His forthcoming itinerary includes visits to Sudbury March 21, Toronto March 31 (Royal College of Dentists of Canada), North Battleford May 10-11 (College of Dental Surgeons of Saskatchewan), Vancouver May 15-17 (Brit-

ish Columbia Dental Association) and Jasper, Alberta, June 22-28 (Pacific Dental Conference and Alberta Dental Association).

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on January 31: Government Bond Fund \$13.705; Corporate Bond Fund \$14.853; Common Stock Fund \$27.745. Total assets (market value) of the plan were \$9,401,63.78.

The following common stock portfolio purchases and sales occurred during the preceding month: Bought 2,500 shares Cenco Instruments; 2,000 shares Dominion Foundries and Steel; 5,000 shares Inter Island Resorts; and 8,000 shares Reed, Shaw and Osler; Sold 3,000 shares Cluett Peabody; 1,500 shares J. Ray McDermott; 2,080 shares Transamerica Corporation; and 75 shares Trans Ocean Oil.

For further information please write to the Administrator of CDA-sponsored Pension and Insurance Plans, Professional and Industrial Pensions Ltd., 2249 Yonge St., Toronto 7, Ont.

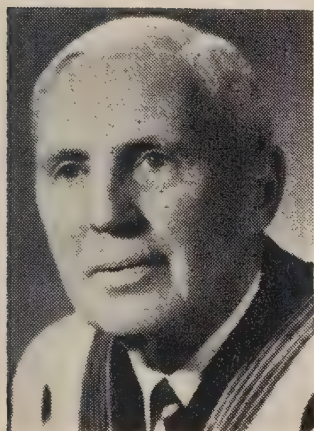
Canada and the Provinces

Dental Trade Executive and Three Prominent Dentists Die

W. J. Langmaid of Oshawa died on January 20 at the age of 68. Dr. Langmaid

served on the Board of Directors of the Royal College of Dental Surgeons of Ontario (1952-60) and on the CDA Board of Governors (1954-59). In 1958 he was named CDA president-elect, but illness forced him to relinquish the appointment the following April. After a temporary retirement, Dr. Langmaid recovered sufficiently to resume active practice. However, his health declined again in recent months.

W. J. Langmaid



Ernest Charron

Ashley & Crippen



H. M. Eaton, 66, practising dentist and professor of radiology at the Faculty of Dentistry, Dalhousie University, Halifax, died on January 12. A native of Truro, Nova Scotia, he graduated from Dalhousie in 1927. Dr. Eaton represented his province on the National Dental Examining Board of Canada. He had also been selected as a delegate to the Canadian Dental Association's Aims and Objectives Conference February 24-25.

George H. Tobey, 59, Toronto, president of Caulk-Canada Limited, died in Calgary on January 10. A native of Picton, Ontario, he worked for a bank and for the Dominion Dental Company before joining Caulk in 1945. Mr. Tobey was a staunch supporter of the Canadian Fund for Dental Education.

Wallace McCutcheon, Former Member of the Hall Commission, Dies at 62

Wallace McCutcheon, financier, former conservative senator, cabinet minister and Tory leadership aspirant, died in Toronto on January 23 at the age of 62.

Mr. McCutcheon served briefly as a member of the Hall Royal Commission on Health Services. He was a strong opponent of universal programs like Canada medicare. Such programs, he contended, deny the truly needy the help they ought to have by spreading available funds too thinly.

International Items

New Group for Preventive Dentistry Formed in Chicago

The American Society for Preventive Dentistry, a national non-profit corporation, has been formed — with headquarters in Chicago.

Among its objectives will be to advance the education of the dental profession, the medical profession and the general public in the preventive aspects of dentistry, to accumulate, co-ordinate and publish educational information relating to preventive dentistry, and to advance

Ernest Charron, dean emeritus of the Faculty of Dental Surgery, Université de Montréal, died on January 10 at the age of 77. Dr. Charron was an honorary member of the Canadian Dental Association. He also served as president of the College of Dental Surgeons of the Province of Quebec from 1924 to 1927. Dr. Charron was born in Richmond, Quebec. He graduated from the Université de Montréal in 1913. Dr. Charron rejoined his alma mater in 1915 as lecturer and clinician in oral surgery and anaesthesia, advancing to professor and head of the department by 1925. In 1930 Dr. Charron assumed additional responsibility as faculty secretary. He was named dean in 1944. Among his numerous awards was an honorary doctor of laws conferred by Dalhousie University in 1958.

education, knowledge and learning in this field.

The group held its first meeting at the Midwinter Meeting of the Chicago Dental Society February 1-5.

For more information about the group, contact the American Society for Preventive Dentistry, 5929 N. Milwaukee Ave., Chicago, Ill. 60646, USA.

Dental Organizations

New Secretary for the Manitoba Dental Association

Mr. Ross H. McIntyre, Winnipeg, has been appointed secretary-treasurer of the Manitoba Dental Association. He succeeds Dr. W. G. Campbell, also of Winnipeg, who retired at the end of 1968.

Periodontics Course in Toronto May 2-3

The Canadian Academy of Periodontology, with the cooperation of the Faculty of Dentistry, University of Toronto, has announced a participation course in surgical periodontics. The course, to be held at Toronto's faculty May 2-3, will be directed by O. W. Donnenfeld, professor and chairman of the Department of Periodontics, Northwestern University. Registration will be limited.

Cheques for the tuition fee of \$100 made payable to the Canadian Academy of Periodontology must accompany applications to the course and should be mailed to J. D. Stewart, 311 Rubidge St., Peterborough, Ont.

Montreal Club Receives Retirement Investment Advice

An investment portfolio for retirement income should comprise well diversified stocks with a clear future growth pattern, according to Geoffrey Hobbs, Montreal, general superintendent of investments for the Royal Trust Company.

In an address to the Montreal Dental

Club last December 16, Mr. Hobbs outlined the following guide to a retirement savings program: cash or cash equivalent 10 per cent; Canadian preferred and convertible stock 20 per cent; Canadian and American common stock 70 per cent. He also recommended that 20 per cent of the portfolio be invested in industries which are not ordinarily represented by Canadian companies. Examples are the shares of aerospace technology, electronic, pharmaceutical, machine tool and similar companies.

The Royal Trust Company is the trustee for the Canadian Dental Association's retirement savings plan.

Niagara Association Sponsors Seminar on Preventive Dentistry

The Niagara Peninsula Dental Association will sponsor an all-day seminar on preventive dentistry on April 18, 9.00 a.m. to 5.00 p.m., at the Sheraton-Brock Hotel, Niagara Falls, Ont. Merrill G. Wheatcroft, professor and chairman of the Department of Pathology, University of Texas, will be the speaker. Dr. Wheatcroft is an associate of Sumter S. Arnim, dean of the University of Texas Graduate School of Biomedical Sciences.

Further information may be obtained from M. D. Taylor, Pen Centre, St. Catharines, Ont.



I. L. Feinchnider (l.), Montreal, is the new president of the Canadian Academy of Dental Sciences. He recently presented a plaque to retiring President Claude Madore, Montreal, in appreciation of the latter's services to the academy.

Economics

Nine Task Forces to Probe Health Care Costs

Ottawa has named chairmen to lead nine task forces in examining costs of health services in Canada today. They are to investigate costs in three areas — hospital services, medical care and public health services. Two of the task forces will be assigned to the medical care field. In addition to analysing the price and delivery of medical care they are expected to examine the role of auxiliaries and allied health professionals.

The task forces will report their findings to a federal-provincial committee which has been charged with studying the rising costs of health services in Canada. The committee was established as a result of the federal-provincial conference of health ministers held in Ottawa last November.

New Welfare Dentistry Agreement in BC

The provincial welfare department and British Columbia's dentists have reached a new agreement on dental service for public assistance recipients. The pact ends strained relations resulting from some dentists' refusal to treat welfare cases except on an emergency basis.

The partial boycott began last July when dentists protested the province's inadequate payments for these patients. Formerly, dentists received 57 per cent of their 1966 fee schedule; as of this year, they will be paid at 75 per cent of their 1968 fee schedule. The dentists had sought parity with physicians who receive 90 per cent of their fee schedule for work under the BC medical plan.

Press reports suggest that the settlement may pave the way to a dental care program covering all BC residents. The agreement is said to include an undertaking by both parties to work toward organizing "the apparatus of the dental association so that it can get into a dental care program."

Multi-State Prepayment Plan Begins for McDonnell Douglas Employees

Approximately 52,000 McDonnell Douglas Corporation employees and their dependants in a six-state area began to receive dental care benefits January 1. The plan is the largest prepaid dental care program for employees of a private corporation in the United States. When fully effective, an estimated 300,000 persons will be eligible for benefits under the program.

Benefits are now in effect for salaried employees and members of the International Association of Machinists employed by McDonnell Douglas in Arkansas, California, Florida, Oklahoma, South Carolina and Tennessee. On January 1, 1970, an additional 30,000 employees, who are members of the United Automobile Workers, are expected to enter the program with their dependants.

The patient has free choice of dentist and the plan covers all dental services except orthodontics. The program pays 75 per cent of allowable charges for all basic services and 50 per cent of charges for dentures and bridges. There is an annual \$25 deductible with a \$75 per-family aggregate maximum. The deductible does not, however, apply to dental prophylaxis which may be provided every six months.

California Dental Service, a west coast dental service corporation, administers and underwrites much of the program. Other service corporations in South Carolina and Tennessee will participate in administration. Health Service Inc., Chicago, the national underwriting adjunct of the Blue Cross system for hospital insurance in the United States, provides underwriting in Oklahoma and Florida with administration contracted to the California Dental Service.

NY Dentists Challenge Health and Welfare Departments over Medicaid Rule

Some dental organizations in New York State are contesting a ruling which limits the payment of 'Medicaid' benefits to practitioners who formally agree to undertake continuing education. The dispute

centres on who has the right to control the quality of care — the dental licensing authorities or the state health and welfare departments which administer the 'Medicaid' program in New York State.

'Medicaid' operates in some 40 American states. The system is financed by federal, state and sometimes local funds. Its benefits apply to persons with incomes below a specified level — \$5,600 in New York City where there are 2,300,000 eligible beneficiaries. 'Medicaid' often provides dental and other health benefits in addition to its basic medical and hospital coverage. It must be distinguished from the country-wide federally financed 'Medicare' which applies to all Americans aged 65 and over.

Public Health

Two Public Health Dentists Appointed in Toronto Boroughs

Kenrick Kawall, Toronto, has been appointed director of dental services for the Borough of North York in Metropolitan Toronto. He succeeds R. E. Feasby who resigned last year to accept an appointment as senior consultant in public health dentistry to the Ontario Department of Health.

S. M. Green, Toronto, has been named dental director for the Boroughs of York and Etobicoke and Halton County Health Unit. Dr. Green graduated from the School of Hygiene, University of Toronto, in 1968. He was in private practice in Toronto prior to entering public health.

Fluoridation

WHO Backs Fluoridation

A World Health Organization official has reasserted support for fluoridation. The action came in response to a Canadian opponent of the measure who claimed that fluoridation had not been endorsed by the World Health Organization. In consequence, the matter was referred to

Vladimir Rudko, chief of dental health for WHO.

Dr. Rudko's reply shows that this opponent was playing up a technicality over the word 'endorse' as subjects of this kind are not normally discussed by the WHO World Health Assembly, but are dealt with by technical divisions, units and experts.

The attitude of WHO experts on dental health toward fluoridation was clearly defined in 1958. A new WHO monograph, *Fluorides and Human Health*, will be published in mid 1969.

Dr. Rudko said that WHO aids countries that request technical assistance in planning and establishing water fluoridation programs. The WHO Dental Health Unit co-operates closely with the Fédération Dentaire Internationale in compiling and distributing promotional information about fluoridation.

Report from Tasmania Vindicates Fluoridation

Fluoridation in Australia has gained new support from the Report of the Royal Commissioner of the Tasmanian Inquiry into Fluoridation released late last year. Australian Dental Association officials termed the report an unequivocal reinforcement of the scientific background of fluoridation. It analysed a wide range of opposing thought, including that of Sir Arthur Amies and P. R. N. Sutton, and ruled that their objections were not capable of substantiation or ignored current accumulated knowledge. This ruling is important because these two Australian opponents of fluoridation have been frequently quoted in North America.

Deaths

Anderson, Eric Thor. 29. Sarnia, Ont. University of Detroit, 1965. 30-1-69. Survived by Carole (wife); Dr. and Mrs. G. L. Anderson (parents); Dr. Donald (brother); and Mrs. Don Wood (sister).
Barr, Charles Henry. 82. Ste. Agathe des Monts, Que. McGill University, 1916.

- 19-12-68. Survived by Vivian (wife); William F. (son); and Mrs. W. Frager (daughter).
- Bonneau, Louis Joseph. 59. Québec. Université de Montréal, 1933. 5-1-69.
- Brunet, Peter Danis. 54. Vanier City (Eastview), Ont. University of Toronto, 1936. 23-12-68. Survived by Irene (wife); Marc and Richard (sons); Francoise, Claire and Nicole (daughters); Dr. Oscar (brother); and Mrs. Lucien Guertin, Mrs. John Butler, Mrs. Tom Riley and Mrs. Paul Gagnon (sisters).
- Charron, Ernest. 77. Montréal. Université de Montréal, 1912. 10-1-69. Survécut par Antoinette (épouse); André (fils); Jacqueline et Louise (filles); et neuf petits-enfants. Membre honoraire de l'ADC.
- Dawson, John Thomas. 79. Vancouver. University of Oregon, North Pacific College, 1924. 16-10-68. Survived by Jessie (wife).
- Detlor, Calvin Arthur. 84. Whitby, Ont. Royal College of Dental Surgeons of Ontario, 1912. 21-12-68. Survived by M. C. Detlor (son).
- Eaton, Hugh MacDonald. 66. Halifax. Dalhousie University, 1927. 12-1-69. Survived by Irene (wife); Robert (son); Mrs. Andrew Catellier (daughter); Horace, Dr. George and Dr. Drummond (brothers); Mrs. W. H. MacNeily (sister); and two granddaughters.
- Greenberg, Silas Edward. 67. Winnipeg. Royal College of Dental Surgeons of Ontario, 1925. 19-1-69. Survived by Etta (wife); H. D. Greenberg (son); and Beryl and Mrs. J. Lowenstein (daughters).
- Hoar, H. B. Calgary, Alta. Royal College of Dental Surgeons of Ontario, 1921. 1969.
- Langmaid, Wesley John. 68. Oshawa, Ont. Royal College of Dental Surgeons of Ontario, 1922. 20-1-69. Survived by Louise (wife) and Dr. Douglas, Dr. Jack and Dr. Ross (sons).
- Le Blanc, Louis G. 68. Rexton, NB. Université de Montréal 1924. 10-12-68. Survived by Grace (wife); Conrad and Fernand (sons); Carmen and Rochelle Wentzell (daughters); and five grandchildren.
- Perlman, Louis. Windsor, Ont. Royal College of Dental Surgeons of Ontario, 1922. 6-12-68.
- Perron, Dolphe. 66. Valleyfield, Qué. Université de Montréal, 1927. 30-12-68.
- Rice, Joseph Herbert Howard. 82. Halifax. Tufts University, 1908. 17-12-68. Survived by Mrs. Hector Craig (daughter) and Dr. J. Nelson (brother).
- Riverin, Paul. 66. Chicoutimi, Qué. Université de Montréal, 1927. 20-7-68.
- Robb, Thomas Irwin. 85. Regina. Chicago Dental School, Loyola University, 1909. 5-1-69.

Attractive small shops and boutiques abound in Montreal's side streets. Most are within easy walking distance of the Queen Elizabeth Hotel, site of the CDA national convention, July 9-11.



les actualités dentaires

L'Association

Le Président Brouillet visite l'Ouest canadien

Le président de l'ADC, le docteur Henri Brouillet, a rendu visite aux sociétés dentaires du Canada central et de l'Ouest au cours de la première moitié de l'année 1969.

Il a assisté à des réunions à Winnipeg, les 24 et 25 janvier avec l'Association dentaire du Manitoba et à Toronto du 24 au 28 février où il a participé à la Conférence sur les buts et les objectifs de l'ADC et au Conseil exécutif de l'ADC. Son prochain itinéraire comprend des visites à Sudbury le 21 mars, à Toronto le 31 mars au Collège royal des Chirurgiens-Dentistes du Canada, à North Battleford les 10 et 11 mai au Collège des Chirurgiens-Dentistes de la Saskatchewan, à Vancouver du 15 au 17 mai avec l'Association dentaire de la Colombie britannique et à Jasper, en Alberta, du 22 au 28 juin à la Conférence dentaire du Pacifique et l'Association dentaire de l'Alberta.

L'aide fédérale à l'enseignement dentaire est insuffisante, déclare l'ADC

Le Ministre fédéral de la Santé et du Bien-être a fait savoir à l'Association dentaire canadienne qu'au cours de l'année fiscale 1967-68, 214 dentistes et 36 hygiénistes dentaires suivant des cours de plus ou moins longue durée, avaient bénéficié d'une aide fédérale. Cette déclaration répondait à une demande de l'ADC qui avait sollicité d'Ottawa plus d'argent pour

l'enseignement dentaire (voir le Journal d'octobre 1968).

Une analyse de la déclaration du Ministre montre que sur les 214 dentistes, six seulement ont suivi des cours d'une durée dépassant cinq jours. Cinq de ces six dentistes ont suivi des cours d'hygiène dentaire publique. Vingt-cinq des 36 hygiénistes dentaires qui ont reçu une aide financière, ont suivi des cours d'un ou deux jours.

L'Association dentaire canadienne insiste à nouveau auprès du Ministère fédéral, sur le besoin urgent d'augmenter son aide afin de former des enseignants et des chercheurs pour les facultés dentaires canadiennes qui sont en voie de développement.

Proposition d'abandonner le reclassement des spécialités

Le Comité des spécialités recommandera au Conseil des Gouverneurs que le projet de répartir les spécialités par groupes (en guise d'essai: la stomatologie, la dentisterie de restauration, la dentisterie sociale et préventive) soit abandonné. La décision fut prise le 8 janvier après avoir tenu compte des points de vue exprimés par les membres corporatifs et les sections des spécialités.

Le Conseil des Gouverneurs avait demandé l'année dernière au Comité des spécialités de consulter les membres corporatifs et les sections des spécialités sur le reclassement des spécialités et de présenter un nouveau rapport à l'assemblée annuelle en 1969. La correspondance qui suivit révéla une opposition au projet largement répandue.

Le Canada

Le Ministère du Revenu éclaircit les règlements sur la déduction des frais de congrès

Le Ministère du Revenu national vient de répéter qu'un dentiste exerçant sa profession peut encore assister à un congrès en dehors du Canada et réclamer une dé-

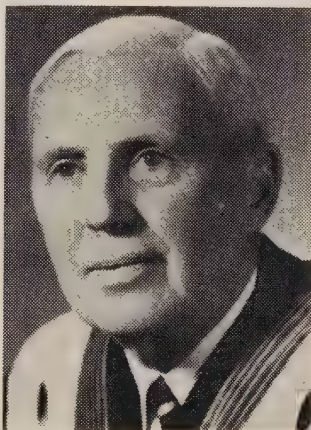
duction pour des dépenses raisonnables qui y sont attribuables à condition que le congrès soit organisé par une association dentaire non-canadienne et que le dentiste était présent pour des raisons professionnelles.

Les dépenses encourues par suite de la participation à un congrès organisé par une association canadienne, mais qui s'est tenu en dehors du Canada ne sont, cependant, plus considérées comme déductibles pour le calcul de l'impôt sur le revenu. (Voir aussi "Déclaration fédérale d'impôt sur le revenu", J. Ass. dent. canad. 34:653, décembre 1968.)

Le règlement de la Loi de l'impôt sur le revenu continue à limiter l'allocation aux frais de deux congrès seulement par année fiscale.

Le président d'une maison de commerce dentaire et deux éducateurs sont décédés

La dentisterie au Canada vient de perdre deux éducateurs éminents et le président de l'une des plus importantes compagnies de distribution de produits dentaires.



Le Dr Ernest Charron

Le docteur Ernest Charron, doyen honoraire de la Faculté de chirurgie dentaire de l'Université de Montréal, est décédé le 10 janvier à l'âge de 77 ans. Le docteur Charron était membre honoraire de l'Association dentaire canadienne. Il avait également assumé le poste de président du Collège des Chirurgiens-Dentistes de la Province de Québec de 1924 à 1927. Le docteur Charron était né à Richmond au Québec. Il fut diplômé de l'Université de Montréal en 1913. Le docteur Charron retourna à la Faculté en 1915 en tant que

chargé de cours et clinicien en chirurgie buccale et en anesthésiologie, puis devint professeur et directeur du service en 1925. En 1930 le docteur Charron assumait la responsabilité supplémentaire du poste de secrétaire de la Faculté. Il fut nommé doyen en 1944. Parmi ses nombreuses distinctions honorifiques on note le titre de Docteur en Droit, honoris causa que lui décernait l'Université Dalhousie en 1958.

Le docteur H. M. Eaton, âgé de 66 ans, praticien et professeur de radiologie à la Faculté de chirurgie dentaire de l'Université Dalhousie à Halifax est décédé le 12 janvier. Né à Truro, en Nouvelle Ecosse, il fut diplômé de Dalhousie en 1927. Le docteur Eaton avait représenté sa province auprès du Bureau national d'examen dentaire du Canada. Il avait également été choisi comme délégué à la Conférence sur les buts et les objectifs de l'ADC qui s'est déroulée les 24 et 25 février.

Monsieur George H. Tobey, de Toronto, le président de la compagnie Caulk-Canada Limited, est décédé à Calgary le 10 janvier. Né à Picton, en Ontario, il avait été employé par une banque et la Dominion Dental Company avant de se joindre à Caulk. M. Tobey était un solide adhérent au Fonds canadien pour l'enseignement dentaire.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association dentaire canadienne étaient les suivantes au 31 janvier: fonds d'obligations gouvernementales \$13.705; fonds d'obligations corporatives \$14.853; fonds d'actions ordinaires \$27.745. L'avoir total (valeur marchande) du régime se montait à \$9,401,63.78.

Au cours du mois précédent, les transactions, achats et ventes, d'actions ordinaires ont été les suivantes: achat 2,500 actions de Cenco Instruments; 2,000 actions de Dominion Foundries and Steel; 5,000 actions de Inter Island Resorts; et 8,000 actions de Reed, Shaw and Osler; vente 3,000 actions de Cluett Peabody; 1,500 actions de J. Ray McDermott; 2,080

actions de Transamerica Corporation; et 75 actions de Trans Ocean Oil.

Pour de plus amples renseignements, veuillez écrire à: The Administrator of CDA-sponsored Pension and Insurance Plans, Professional and Industrial Pensions Ltd., 2249 Yonge St., Toronto 7, Ont.

Les organisations dentaires

Le Montreal Dental Club reçoit des conseils sur les placements de retraite

Un portefeuille de placements pour un revenu de retraite devrait comprendre des valeurs bien diversifiées avec une tendance d'accroissement bien marquée, selon Geoffrey Hobbs de Montréal, directeur général des placements à la compagnie de fiducie Royal Trust.

Au cours de son allocution au Montreal Dental Club le 16 décembre dernier, M. Hobbs a fait l'esquisse suivante d'un programme d'épargne-retraite: valeurs en espèces ou leur équivalent 10 pour cent; actions privilégiées ou convertibles canadiennes 20 pour cent; actions ordinaires canadiennes et américaines 70 pour cent. Il a aussi conseillé d'investir 20 pour cent de ce portefeuille dans les industries qui ne sont pas représentées d'habitude par des compagnies canadiennes. Il a donné comme exemple les actions des compagnies qui travaillent dans la technologie aérospatiale, électronique, pharmaceutique, machine-outil et autres.

La compagnie de fiducie Royal Trust administre le plan d'épargne-retraite de l'ADC.

La fusion des organisations dentaires de la CB est préconisée

Les deux organisations dentaires provinciales actuelles de la Colombie britannique céderont peut-être leurs places à une unique organisation si les recommandations d'une étude d'administration sont entièrement exécutées.

La projet de la firme d'administration de Stevenson and Kellogg Ltd., qui ré-



Le président de l'Académie canadienne des sciences dentaires pour l'année 1968-69 est le Dr I. L. Feinchnider, de Montréal. Sur la photo, nous voyons à droite, le Dr Feinchnider recevant les félicitations du Dr Claude Madore, président sortant.

clamerait la substitution du Collège des Chirurgiens-Dentistes et de l'Association dentaire de la CB par une nouvelle Fédération dentaire de la CB, a été ratifié en principe à une réunion spéciale de l'ADCB le 7 décembre dernier. La fusion avait été appuyée au préalable par le Conseil du Collège et par les bureaux exécutifs de l'ADCB et l'Association dentaire de Vancouver et environs. L'ADCB a formé un comité chargé d'effectuer le changement.

Les facultés dentaires canadiennes

Jean Yergeau élu président du Comité consultatif du Centre audio-visuel

Le Dr Jean Yergeau, professeur agrégé au Département de dentisterie de restauration de la Faculté de chirurgie dentaire de l'Université de Montréal a été élu président du Comité consultatif du Centre audio-visuel de l'université. Le Comité comprend huit professeurs et cadres représentant les divers secteurs d'enseignement de l'université et a pour fonction de conseiller le vice-recteur à la gestion académique et la direction du Centre. Le comité établira les priorités et analysera les rapports des projets relatifs à la radio

et à la télévision et à l'utilisation des techniques audio-visuelles dans l'enseignement.

Fluoration

Vancouver rejette un nouveau plébiscite sur la fluoration

Quatorze municipalités desservies par le Greater Vancouver Water Board continueront à se passer des avantages de la fluoration, la loi demandant un vote favorable à 60 pour cent des voix pour l'adoption de cette mesure.

Les résultats du scrutin de décembre dernier indiquent qu'environ 55 pour cent des habitants de Vancouver sont en faveur de la fluoration, alors que près de 57 pour cent approuvent l'adoption de cette mesure dans les municipalités environnantes.

La Colombie britannique, qui vient en neuvième place quant à l'usage de la fluoration dans les 12 provinces et territoires du Canada, est la seule région qui exige plus qu'une majorité simple pour adopter la fluoration par plébiscite.

Lors des plébiscites qui ont eu lieu en Ontario, Hamilton a voté en faveur de la continuation de la fluoration, Ajax, Goderich, Kenora, Petrolia, Tecumseh et Tilbury ont approuvé cette mesure tandis que Hanover et Sault Ste-Marie votaient contre.

En Ontario, la pollution de l'air par le fluorure ne serait pas dangereuse

La pollution de l'air par les fluorures dans la région de Port Maitland n'a jamais constitué un danger pour la santé humaine. C'est ce qu'a déclaré un rapport déposé à la législature de l'Ontario, le 10 décembre 1968. Mais ce rapport indique que le danger pour les récoltes et le bétail demande de façon urgente une action antipollution générale de la part du gouvernement provincial.

Un comité de trois personnes qui a étudié la pollution de l'air, de l'eau et du sol dans la région de Port Maitland,

au sud de Dunnville, a annoncé que les quantités de fluorure et de bioxyde de soufre n'étaient pas suffisantes pour constituer une menace pour les humains. Ce comité, présidé par M. G. E. Hall, ancien président de l'Université de Western Ontario a été formé en novembre 1967, à la suite d'un documentaire télévisé de Radio-Canada intitulé "Air of Death", qui insinuait que les cultivateurs de la région mouraient d'empoisonnement par le fluor.

L'Electric Reduction Company, qui fabrique des engrais dans cette région, s'est reconnu responsable de la pollution par le fluorure, à Port Maitland. La plupart des dommages aux récoltes et au bétail sont probablement dus au fluor, a noté le rapport. Le comité a critiqué ERCO pour n'avoir pas fait tout ce qui était techniquement possible afin de réduire les émanations. Mais c'est Radio-Canada qui a été blâmé le plus sévèrement, pour avoir "traité une question complexe de façon à susciter des craintes et des inquiétudes".

Le comité a recommandé, entre autres, une enquête sur l'état des dents des enfants de la région, en 1970, pour évaluer les effets du fluorure qu'ils ont absorbé.

L'économie

Le Service des Pensionnaires de l'Alberta augmentera ses versements aux dentistes

Le gouvernement de l'Alberta a consenti à augmenter ses versements au Service dentaire des Pensionnaires de l'Alberta de 95 cents à \$1.15 par ayant-droit. Cette augmentation entrera en vigueur le 1er avril. Les versements au prorata aux dentistes, jusqu'ici fixés à 85 pour cent seront alors portés à 90 pour cent.

Le Service dentaire des Pensionnaires de l'Alberta est un programme d'assistance dentaire publique administré par l'Alberta Dental Association.

Un nouvel accord avec le gouvernement en CB

Le Ministère provincial du Bien-être social et les dentistes de la Colombie

britannique ont abouti à un nouvel accord sur les services dentaires aux bénéficiaires de l'assistance publique. Cette convention met fin aux rapports tendus consécutifs au refus de certains dentistes de soigner les patients de l'assistance publique à l'exception des cas urgents.

Le boycottage partiel avait commencé au mois de juillet dernier lorsque les dentistes s'étaient élevés contre les rémunérations insuffisantes que la province payait pour ces patients. Autrefois, les dentistes recevaient 57 pour cent de leur tarif de 1966; à partir de cette année, ils seront payés 75 pour cent de leur tarif de 1968. Les dentistes avaient essayé d'obtenir l'égalité avec les médecins qui reçoivent 90 pour cent de leur tarif lorsqu'ils travaillent sous le plan médical de la CB.

Les comptes rendus des journaux évoquent l'idée que le règlement de cette affaire pourrait préparer le terrain pour un plan de soins dentaires qui comprendrait toute la population de la CB. On dit que l'accord comprend un engagement par les deux groupes d'élaborer l'organisation de "l'appareil de l'association dentaire de sorte qu'elle puisse prendre part à un plan de services dentaires".

Nouvelle politique de la Colombie britannique au sujet de la prothèse pour les assistés sociaux

En Colombie britannique, les bénéficiaires de l'assistance publique qui ont besoin de prothèses ou dont les prothèses doivent être réparées, pourront à l'avenir obtenir les services de mécaniciens-dentistes. En prenant cette décision, le Ministre provincial du Bien-être aurait accédé à une demande de la Public Denturists' Society de la Colombie britannique.

Aux termes de la législation adoptée en 1962, les mécaniciens-dentistes ont été autorisés à traiter directement avec le public pour ajuster et fabriquer des prothèses complètes, doubler ou réparer des pièces complètes et partielles. Jusqu'ici cependant, la politique gouvernementale ne permettait pas aux personnes bénéficiaires de l'assistance publique, de se prévaloir de ces services.

D'après le ministre, cette décision n'a rien à voir avec le refus de servir les

bénéficiaires du bien-être, de la part de certains dentistes qui protestaient contre le barème très bas des honoraires pour les assistés sociaux.

Le gouvernement québécois suspend les paiements d'honoraires aux omnipraticiens

C'est à la suite de la décision du ministre québécois de la santé de suspendre les paiements d'honoraires aux omnipraticiens qui soignent les indigents que 75 pour cent des omnipraticiens de Montréal et de nombreux médecins de province refusent depuis le début du mois de janvier de soigner les détenteurs de cartes d'assistance sociale.

Les omnipraticiens veulent que le gouvernement respecte les termes d'une convention collective selon lesquels certains actes médicaux pouvant être exécutés également par les omnipraticiens et par les spécialistes seraient rémunérés d'après une même échelle.

Le gouvernement veut attendre qu'un nouveau contrat collectif soit signé et a cessé tous ses versements d'honoraires en annonçant que sa décision avait effet de rétroactivité au premier juillet. La convention actuelle expirera le 30 juin.

Les membres de la Fédération des médecins spécialistes du Québec ont perdu tout espoir de jamais recevoir du gouvernement les honoraires dont le paiement avait déjà été différé en attendant le règlement du même problème et les omnipraticiens craignent que le même sort leur soit réservé. Certains ont laissé entendre que le gouvernement avait peut-être été forcé de suspendre ses paiements à cause du piètre état financier du fonds d'assistance médicale.

Les dentistes de l'état de New York disputent une ordonnance du service de santé sur l'aide médicale

Certaines organisations dentaires de l'état de New York contestent une décision qui restreint les rémunérations pour les prestations de l'aide médicale ("Medicaid") aux praticiens qui consentent formellement à entreprendre l'éducation perma-

nente. La contestation veut décider qui a le droit de réglementer la qualité des soins — les autorités dentaires qui octroient la licence ou le service de santé qui gère le programme de l'aide médicale dans l'état de New York.

L'aide médicale fonctionne dans environ 40 états américains. Les fonds proviennent du gouvernement fédéral, des états et parfois des gouvernements locaux. Les personnes qui ont un revenu au-dessous d'un niveau prescrit ont droit au bénéfice des prestations — \$5,600 dans la ville de New York où il pourrait y avoir 2,300,000 bénéficiaires. L'aide médicale prévoit souvent le bénéfice des prestations pour les soins dentaires et les autres soins de santé en plus de garantir les soins médicaux et l'hospitalisation. Il faut faire une distinction entre l'aide médicale et "Medicare", le programme d'assurance-maladie financé par le gouvernement fédéral qui s'applique à tous les Américains au-dessus de l'âge de 65 ans dans tout le pays.

Plusieurs états américains inaugurent les modalités de paiement d'avance pour les employés de McDonnell Douglas

C'est le 1er janvier que dans six états américains près de 52,000 employés de McDonnell Douglas Corporation et leurs familles ont commencé à percevoir des prestations pour les soins dentaires. C'est le plus grand programme de services dentaires payés par anticipation pour les employés d'une compagnie privée aux États-Unis. On estime que 300,000 personnes seront éventuellement éligibles lorsque le programme sera complètement entré en vigueur.

Les employés salariés et les membres

de l'Association internationale des machinistes employés par McDonnell Douglas en Arkansas, Californie, Floride, Oklahoma, Caroline du Sud et au Tennessee participent déjà au régime. On s'attend à ce que 30,000 employés de plus qui sont membres des Travailleurs unis de l'automobile se joignent à ce programme avec leurs familles à partir du 1er janvier 1970.

Le patient est libre de choisir son dentiste et le régime comprend tous les services dentaires à l'exception de l'orthodontie. Le contrat rembourse 75 pour cent des frais admis pour tous les services de base et 50 pour cent des frais de prothèses et de ponts. Il y a une déduction de \$25 par année avec un maximum de \$75 par famille. La déduction ne s'applique cependant pas au nettoyage des dents lequel peut être fait tous les six mois.

Le California Dental Service, une corporation de services dentaires de la côte du Pacifique, administre et souscrit une grande partie du régime. D'autres corporations de services en Caroline du Sud et au Tennessee participeront également à l'administration. C'est le Health Service Inc., de Chicago, une succursale nationale de la Croix Bleue qui souscrit l'assurance-hospitalisation aux États-Unis, qui fera la souscription en Floride et dans l'Oklahoma tandis que le California Dental Service entreprendra l'administration.

Distinctions honorifiques

Le docteur **Jean-Paul Lussier**, doyen de la Faculté de chirurgie dentaire de l'Université de Montréal, a été nommé membre honoraire de la Société dentaire de Montréal à une cérémonie qui s'est tenue le 23 janvier 1969.

articles

L'auteur traite des asymétries mandibulaires, de leur analyse et de leur traitement chirurgical. Afin d'obtenir un bon résultat esthétique et fonctionnel il est indispensable de faire une étude rigoureuse de l'asymétrie des os et des tissus mous. Il faut envisager le cas où il s'agit d'un manque de croissance aussi bien que le cas où il y a excès. L'intervention chirurgicale doit se faire là où s'est produite l'anomalie de croissance. L'auteur insiste sur l'importance qu'il y a à adapter la technique chirurgicale aux particularités de chaque cas. Il décrit deux interventions et expose les mérites de la méthode d'Obwegeser pour l'ostéotomie sagittale des branches montantes.

Major maxillofacial deformities can be surgically treated by maxillary osteotomy. This artificial fracture permits advancement, rotation or backward displacement of the fragments. The author describes one such deformity — mandibular asymmetry, also known as laterognathia. Present methods of pre-operative analysis of this defect need further refinement. A photographic method in which facial tracings are cut out and rotated would be of some value. Overcorrection of such an asymmetry has consequences of far greater significance than overcorrection of prognathia. A new classification of asymmetries is therefore proposed which takes into account excessive and insufficient osseous and muscular growth. Subsequent correction should be made where the growth defect has occurred, and both sides should be treated to avoid contralateral torsion of the joint when laterognathia exceeds 6 mm. Though there is no mention of sagittal splitting of the mandible in the literature on asymmetry, this excellent technique developed by Obwegeser is very effective in unilateral prognathia. The author reports one case of unilateral sagittal mandibular splitting and another case of bilateral vertical oblique osteotomy for the correction of mandibular asymmetry.

Les asymétries

mandibulaires: essai de classification et analyse de deux cas

Mandibular asymmetry: proposed classification

and an analysis of two cases

Paul Mercier, DDS, Montréal, Qué.

Les malformations maxillo-faciales se corrigent chirurgicalement de deux façons différentes. La première purement esthétique procure un contour facial régulier en enfouissant, sous la peau des matériaux inertes, le silicone ou des matériaux autogènes, des greffes de tissu adipeux ou cartilagineux.¹ Ces techniques de camouflage sont surtout indiquées pour des atrophies musculaires, telle l'hémia-trophie faciale. Mais lorsque la malformation atteint d'abord le squelette, il faut aborder le problème d'une autre façon et replacer l'os dans une position plus normale par des sections des os qui sont en

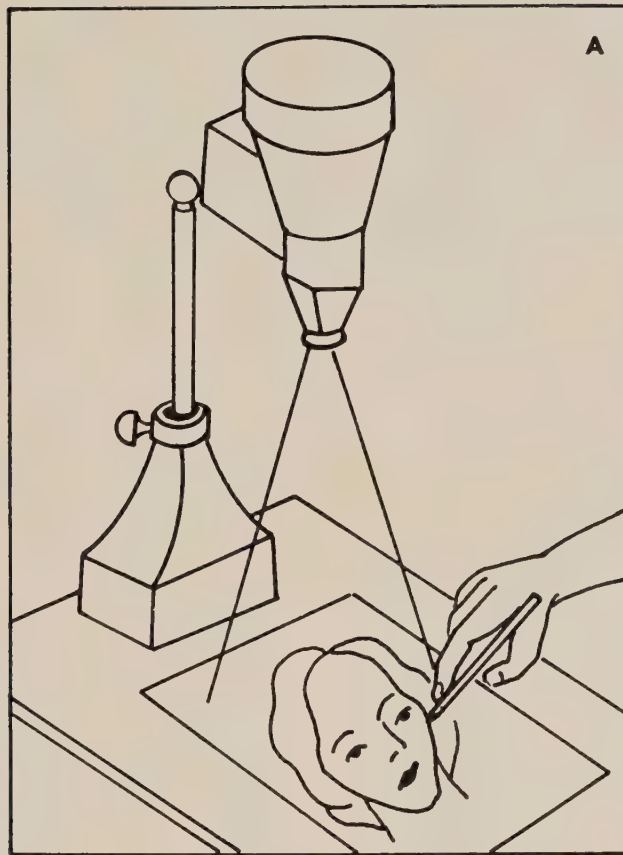


FIGURE 1 Méthode d'analyse photographique des asymétries. A, photographie projetée, dessinée. B, analyse de l'asymétrie et correction sur papier selon les lignes médianes.



fait des fractures thérapeutiques. Ces ostéotomies se pratiquent en général à l'étage inférieur du visage sur le maxillaire et plus particulièrement à la mandibule, là où se produisent la majorité des malformations maxillo-faciales. Mentionnons que ce n'est que depuis quelques années que l'on pratique des ostéotomies correctrices à l'étage moyen autour des cavités orbitaires dans les cas d'hyperthélorisme ou de dysostose mandibulo-faciale.²

Le présent travail se limite aux asymétries mandibulaires, aussi appelées latérogathies. Après avoir examiné les mé-

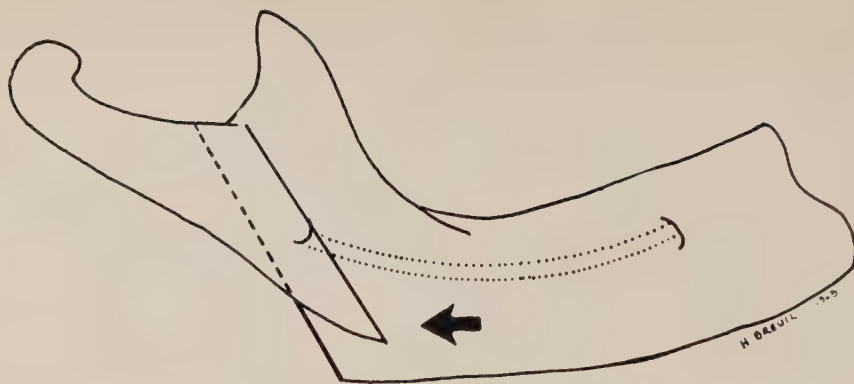


FIGURE 2 Ostéotomie verticale oblique de la branche montante. La partie condylienne est replacée à l'extérieur sans décortication de l'os et sans ligature métallique osseuse.

thodes d'analyse préopératoire et leurs déficiences, nous allons proposer une nouvelle classification des asymétries mandibulaires et de leurs méthodes de correction chirurgicale pour terminer par l'exposé de deux cas. L'un de ceux-ci fut traité par l'ostéotomie verticale oblique des branches montantes, et l'autre par l'ostéotomie sagittale de la branche montante de la mandibule.

Un examen clinique approfondi des céphalogrammes, des modèles d'étude et des photographies fournissent des renseignements précieux pour choisir d'une technique chirurgicale. L'étude des asymétries présente cependant, certains problèmes d'interprétation. A quel point un visage cesse-t-il d'être symétrique pour perdre son contour harmonieux? La céphalographie postéro-antérieure est encore dans son enfance. Elle tient vaguement compte du contour des tissus mous. Et dans les asymétries le contour du visage revêt une importance toute spéciale. Il peut être dangereux de surcorriger un cas d'asymétrie si on s'en tient seulement aux points de repère anatomiques dentaires ou osseux. Au contraire un excès ou un manque de correction peut passer inaperçu dans un mouvement de recul chez un prognathe ou d'avancement chez un micrognathe. Une méthode d'analyse consiste à projeter sur un papier une photographie du patient.³ On dessine puis on découpe le contour du visage de façon à corriger l'asymétrie sur papier en remplaçant les deux lignes médianes l'une sur l'autre. On atteint aussi un aperçu de l'effet produit par une correction chirurgicale (Figure 1).

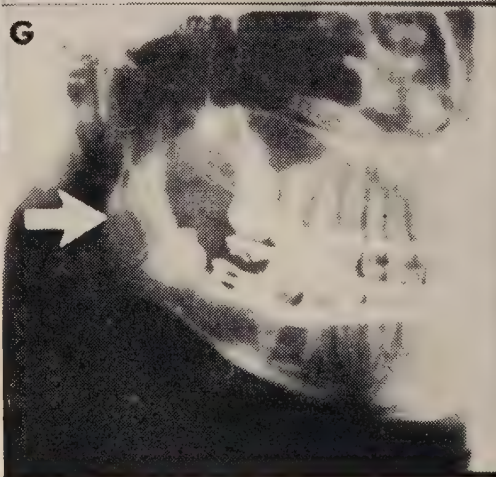
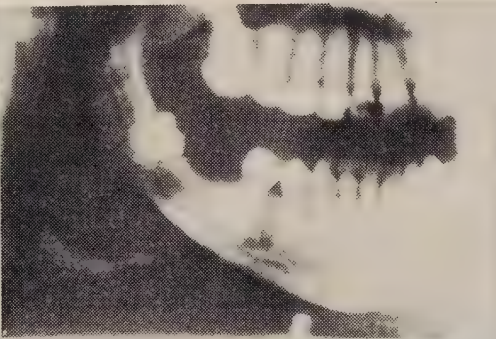
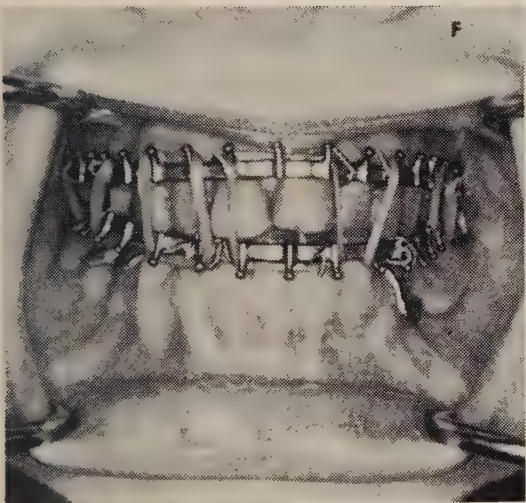
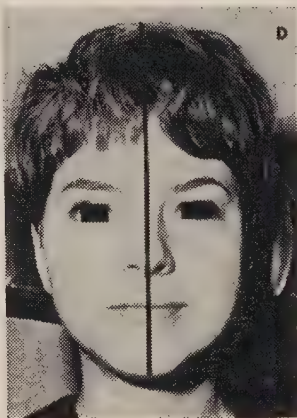
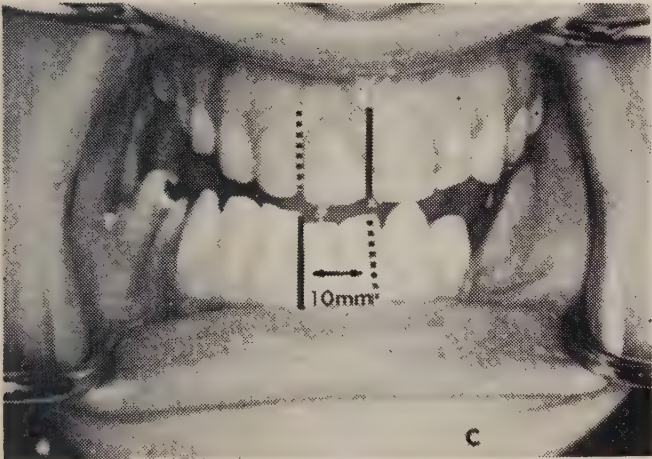
Qu'entendons-nous par asymétrie mandibulaire? En feuilletant la littérature sur ce sujet, on s'aperçoit qu'il y a de la confusion dans les termes et qu'une classification générale doit se baser sur la croissance non seulement osseuse mais aussi musculaire. La plus récente classification des asymétries, celle de Bruce et Hayward,⁴ demeure incomplète. Elle tient seulement compte des excès de croissance unilatérale sans mentionner les défauts ou les manques de croissance unilatérale. De plus, elle se limite aux tissus osseux sans parler des tissus mous. Une classification qui se voudrait complète devrait être élaborée de la façon suivante.

1. Excès de croissance unilatérale

Tissu osseux: (a) prognathie unilatérale, (b) macrognathie unilatérale, (c) hypertrophie condylienne unilatérale.

Tissu musculaire: hypertrophie unilatérale du masseter.

FIGURE 3 (en face) Cas 1. A, asymétrie mandibulaire. Vue de face. B, asymétrie mandibulaire avec prognathie. Vue de profil. C, articulé dentaire en classe III (Angle) unilatéral et en croisement. Latérogathie de 10 mm. D, asymétrie corrigée par ostéotomie verticale oblique des branches montantes. Vue de face. E, profil post-opératoire. Prognathie corrigée. La cicatrice sous-angulo-mandibulaire à un mois seulement est discrète. F, articulé dentaire corrigé. Contention de cinq semaines. G, radiographies panoramiques. En haut: préopératoire. En bas: noter les sections osseuses verticales des branches montantes.



2. Défaut de croissance unilatérale

Tissu osseux: (a) micrognathie unilatérale, (b) atrophie condylienne unilatérale.

Tissu musculaire: atrophie ou absence congénitale du masseter.

Passons maintenant en revue les asymétries mandibulaires osseuses et les différentes techniques de correction chirurgicale.⁴⁻⁷ Nous laisserons de côté les asymétries proprement musculaires. Mentionnons au départ deux points importants qui peuvent contribuer au succès du traitement. Les malformations se corrigent à l'endroit où il s'est produit l'anomalie de croissance. Ce principe s'applique aussi aux asymétries. Le temps où l'on traitait toute asymétrie mandibulaire par la résection d'un condyle fonctionnellement normal, est révolu. Soulignons maintenant le deuxième point. Pour éviter une torsion trop forte du condyle opposé au côté anormal, il est bon de faire une ostéotomie sur ce côté non atteint dès que l'asymétrie dépasse 6 ou 7 mm d'écart entre les deux lignes médianes dentaires supérieures et inférieures. Le deuxième cas rapporté dans cette étude avec 6 mm d'écart a été opéré du côté asymétrique seulement sans causer de trouble fonctionnel à l'articulation temporomandibulaire.

Dans la première catégorie, celle des excès de croissance unilatérale on rencontre fréquemment la prognathie. Nous avons affaire à un trouble de croissance identique à la prognathie bilatérale commune avec angle ouvert et allongement de la branche montante. Cependant, un seul côté est ici atteint ce qui produit un articulé croisé avec classe III d'Angle unilatéral. Comme pour les prognathies communes on opère en général dans la branche montante, là où s'est fait l'excès de croissance. L'ostéotomie verticale oblique des branches montantes (Figure 2), technique de plus en plus employée pour les prognathes donne d'excellents résultats. Pour ceux qui n'aiment pas la voie sous-angulo-mandibulaire l'ostéotomie sagittale des branches montantes telle que l'a développée Obwegeser⁸ et qui est pratiquée par voie buccale peut être employée avec succès. Il est intéressant de noter que dans des ouvrages aussi complets sur les asymétries que ceux de

Bruce et Hayward,⁴ Reichenbach,⁵ et Rowe,⁶ on a négligé d'appliquer aux asymétries cette technique pourtant très souple.

La macrognathie unilatérale affecte la mandibule entière mais d'une façon non proportionnelle comme la précédente. On y rencontre un contour mandibulaire très irrégulier du côté atteint avec proéminence de la partie inférieure du corps de la mandibule. Il y a accroissement vertical de la crête alvéolaire de la mandibule ou plus rarement du maxillaire par compensation. Vu la grande diversité de ces malformations toute une série d'interventions ont été employées à partir du simple remodelage par résection du rebord inférieur mandibulaire en excroissance⁹ jusqu'aux ostéotomies simples ou multiples du corps ou des branches montantes de la mandibule.⁶

La condylectomie^{10,11} est la méthode de choix dans les cas d'hypertrophie condylienne unilatérale. L'ablation du condyle procure un double avantage en éliminant un condyle fonctionnel et en plus en corrigeant l'asymétrie. Lorsque la tête du condyle est normale mais que le col est hypertrophié il est possible de conserver l'articulation par raccourcissement du col.⁴

On rencontre beaucoup moins fréquemment des cas de la deuxième catégorie, celle des défauts de croissance. Ici, il importe non pas de raccourcir l'os mais de produire un allongement osseux. L'ostéotomie sagittale de la branche montante, technique très souple permettra cet allongement pour combler le manque d'os sans faire de greffe osseuse. Ginestet et Merville¹² ont traité quatre cas d'hémi-atrophie mandibulaire par ostéotomie verticale de la branche montante du côté non atteint et ostéotomie du corps de la mandibule de l'autre côté. La section était faite en avant du trou mentonnier et était suivie de l'insertion de greffon osseux pour combler l'espace. Ces techniques qui nécessitent deux interventions majeures doivent être employées au lieu de l'ostéotomie sagittale lorsque l'atrophie est présente surtout dans le corps de la mandibule. Pour ce genre de malformations, il faut allonger la mandibule dans le corps et non dans la branche montante, si on désire obtenir une relation adéquate

des crêtes alvéolaires supérieures et inférieures pour un articulé dentaire satisfaisant.

Voyons maintenant deux cas d'asymétrie mandibulaire et leurs traitements.

CAS 1

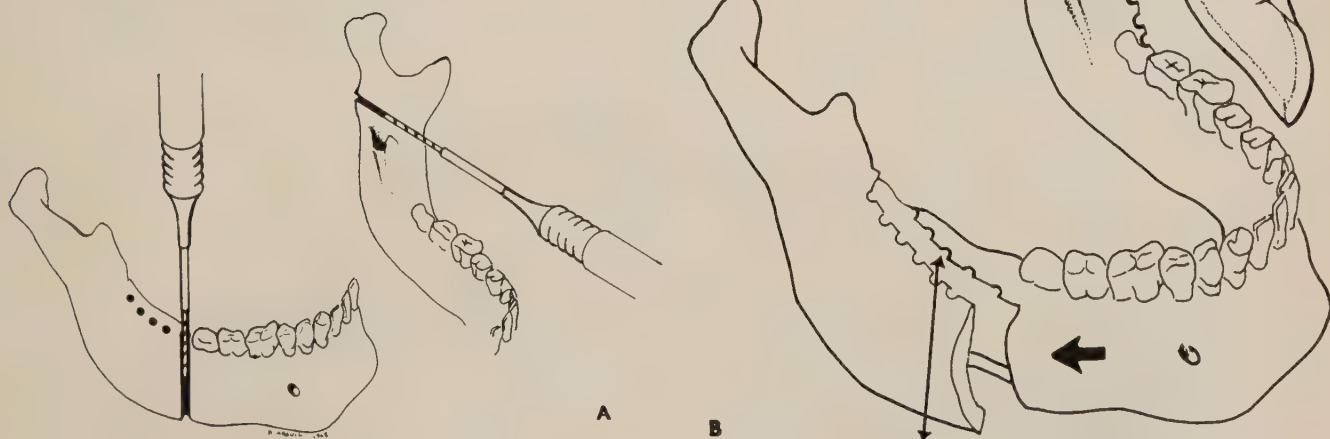
Une infirmière de 23 ans se présente avec une asymétrie mandibulaire et faciale très apparente qui lui cause certainement des troubles psychologiques. Lorsqu'elle parle, la patiente se couvre inconsciemment avec la main le côté affecté du visage. Un appareil de prothèse partielle rétablit la fonction d'un articulé en classe III en croisement. Il y a un écart de 10 mm entre les deux lignes dentaires médianes. On a affaire à un cas type de prognathie unilatérale. L'étude des radiographies, des photographies et des modèles dentaires montre qu'en imprimant du côté hypertrophié un mouvement de recul et de l'autre côté un mouvement de rotation du condyle, on peut corriger l'asymétrie et rétablir un articulé satisfaisant. On procède alors par voie sous-angulo-mandibulaire à une ostéotomie verticale oblique des deux branches montantes. On relâche

le blocage intermaxillaire après cinq semaines pour constater une amélioration sensible des mouvements de l'articulation, surtout des mouvements latéraux. Le résultat esthétique est satisfaisant (Figure 3).

CAS 2

Une technicienne en radiologie de 21 ans se plaint de douleur occasionnelle à l'articulation temporo-mandibulaire. Elle présente une asymétrie mandibulaire avec un articulé dentaire croisé. Les mouvements sont limités d'un côté et exagérés de l'autre côté. La douleur articulaire est probablement due à cette anomalie dans les mouvements de la mandibule. L'écart entre les lignes dentaires médianes est de 6 mm. C'est un cas de prognathie unilatérale. On décide de rétablir l'articulé dentaire et d'améliorer par le fait même l'asymétrie mandibulaire. Il s'agit de reculer la mandibule du côté hypertrophié. La patiente s'objecte à une voie chirurgicale externe à cause de la cicatrice. On emploie donc une ostéotomie sagittale de la branche montante atteinte (Figure 4). Une fois l'os sectionné la mandibule se

FIGURE 4 Ostéotomie sagittale de la branche montante. A, section à la Lindeman de la corticale interne en haut du paquet neurovasculaire; section de la corticale externe au niveau de la troisième molaire et jonction des deux traits par une série de trous. B, division en coupe sagittale à l'aide d'ostéotomes. Le corps mandibulaire est reculé, l'excès de corticale externe est éliminé pour obtenir une mortaise sans ligature péri-mandibulaire ou osseuse.



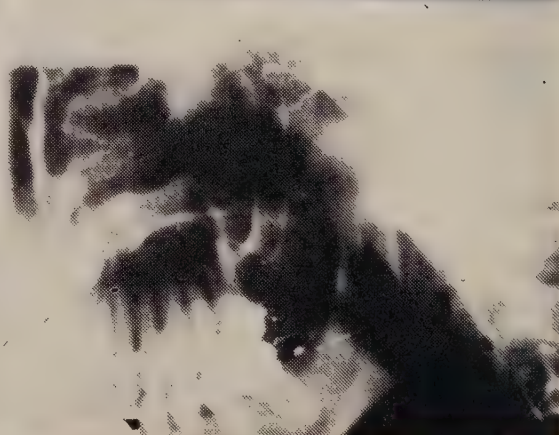
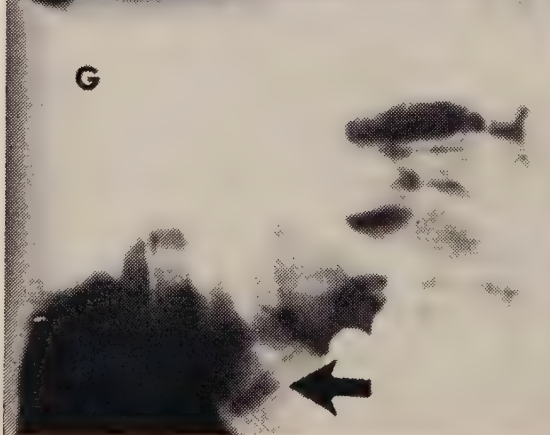
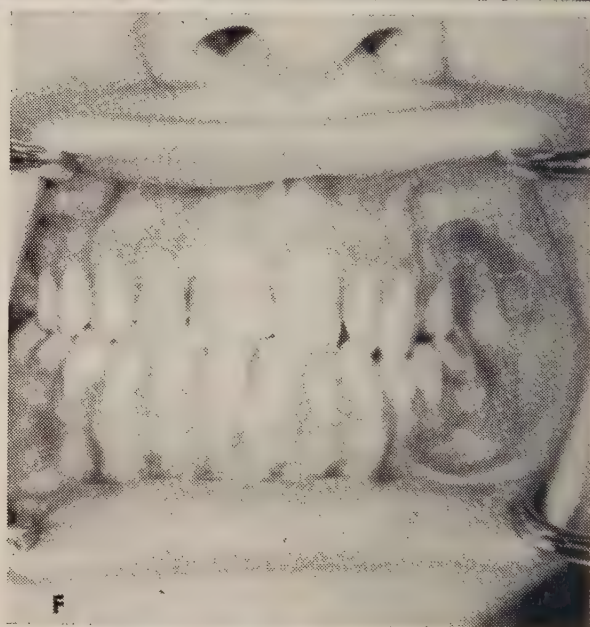
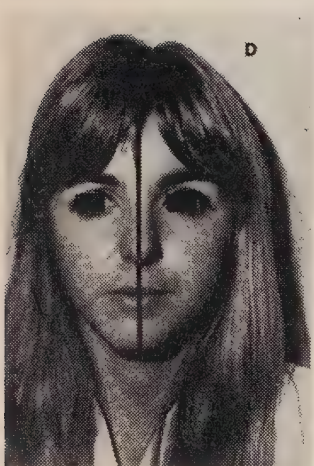
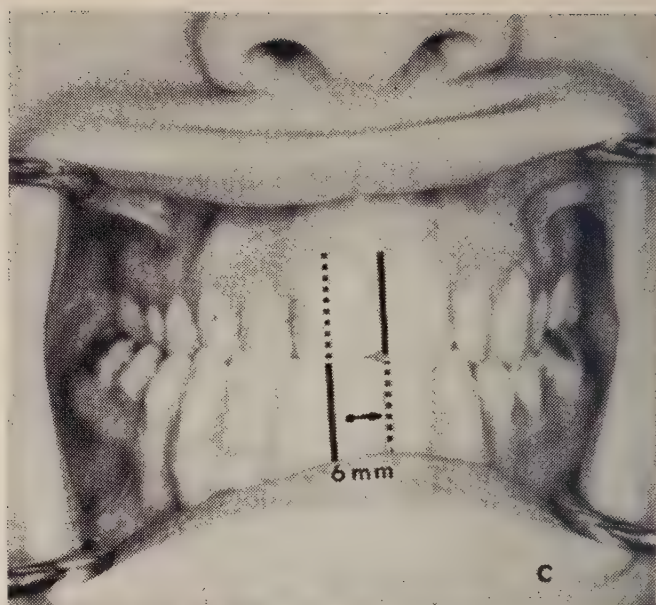
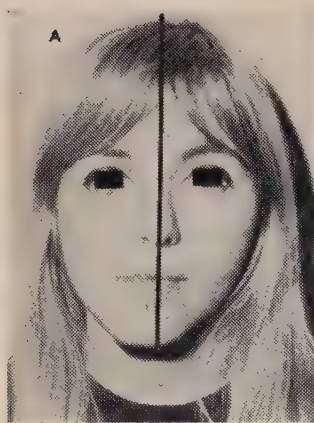


FIGURE 5 (en face) Cas 2. A, asymétrie mandibulaire. Vue de face. B, asymétrie mandibulaire avec prognathie. Vue de profil. C, articulé en classe III unilatéral croisé; latérogathie de 6 mm. D, vue de face post-ostéotomie sagittale de la branche montante affectée. E, profil amélioré. F, articulé dentaire en position normale. G, vues panoramiques. En haut: vue préopératoire. En bas: selon l'alignement des molaires noter le mouvement de recul unilatéral et la section osseuse.

replace naturellement dans sa nouvelle position sans effort sur l'articulation ad-verse. On décide de laisser intact le côté non atteint. La patiente affirme n'avoir souffert d'aucune douleur à l'articulation depuis l'intervention. L'articulé dentaire et le contour mandibulaire sont améliorés (Figure 5).

CONCLUSION

Nous avons étudié un type de malformations plus rare et qui a moins retenu d'attention que la prognathie. Il faut mettre au point des méthodes d'analyse exactes. Il n'y a pas de méthode chirurgicale qui soit satisfaisante dans tous les

cas. Il faut savoir choisir la méthode qui s'adapte le mieux au type de malformations en cause. L'étude de deux cas traités de façon différente illustre bien ce principe.

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Le Château de Ramezay, à Montréal, où étaient domiciliés autrefois les gouverneurs de Montréal et du Canada, abrite un grand nombre de documents précieux qui remontent aux débuts des colonisations française et anglaise. On donne, chaque année, dans ce vieux manoir français, un bal élégant qui est le clou de la saison mondaine de Montréal. Les dames qui visiteront Montréal du 9 au 11 juillet à l'occasion du congrès national de l'ADC, s'y arrêteront.



Postural and kinaesthetic considerations in modern sit-down dentistry

G. J. Tarasoff, DDS, San Francisco, Calif.

The dentist who operates in a seated position enjoys postural and kinaesthetic advantages over the practitioner who works while standing. These advantages include greater freedom from postural variations, lower energy expenditure and reduced fatigue. They are, however, offset to varying degrees by the limitations of individual body mechanics, by personal psychological factors and by environmental factors. Included in the latter are equipment design, procedural techniques and work field restriction. Further research is needed to ascertain how dental equipment can be better adapted to the physical limitations of the dentist, his auxiliaries and his patients.

Les dentistes qui travaillent dans une position assise profitent d'avantages cinesthésiques et de posture dont ne bénéficient pas les praticiens qui travaillent debout. Ces avantages comprennent une plus grande liberté de mouvement, une dépense d'énergie moins grande et une réduction de la fatigue. Ils sont néanmoins contrebalancés par les limites des mécanismes individuels du corps, les facteurs psychologiques personnels et les caractéristiques du milieu. Parmi ces dernières, citons la facture de l'équipement, les techniques opératoires et les restrictions du champ de travail. Il sera nécessaire de faire des recherches plus approfondies pour déterminer les moyens de mieux adapter l'équipement dentaire aux limites physiques du dentiste, de ses aides et de ses patients.

The impending dental manpower shortage, its socio-economic implications, and the rising overhead in modern dental offices are changing the character of dental practice. Multiple operating rooms, efficient utilization of auxiliary personnel, work simplification techniques, including modern sit-down dentistry, enable dentists to produce better services for more patients.

A closer look at modern sit-down dentistry reveals fatigue-reducing factors as well as certain kinaesthetic or anatomical limitations. These limitations may be compounded or relieved by variations in dental equipment used and by procedural techniques. An understanding of the body mechanics used in the modern dental office will make the dentist more aware of these efficiency-reducing factors.

THE STANDING POSITION

Any analysis of posture in sit-down dentistry requires first a brief review of the standing position since the same basic principles of keeping the various body segments in line apply to both.¹ The segmented structure of the body is held together by muscles and ligaments. These oppose the force of gravity if for any reason these segments leave the antero-posterior, lateral and horizontal or transverse planes. When standing, the area of base is relatively small, the centre of gravity is relatively high, and the diverse forces acting upon the body change constantly in magnitude and direction. Minor changes in position, including those of the extremities, head, trunk and even respiration and circulation, can significantly

shift the centre of gravity and initiate appropriate compensatory reactions by the muscles and ligaments.² During standing, many of the extensor muscles of the body contract, withstanding the pull of gravity and maintaining the vertical position. This action is called the 'extensor reflex.'³ The extensors include the plantar muscles of the feet, the calves, the forepart of the thighs, the buttocks, the lower abdominal wall, the pelvic floor (supporting the viscera), the spinal extensors (keeping the trunk from bending forward), the shoulder retractors (keeping the shoulders back), and the neck muscles (balancing the head). The pairing of the muscles of each joint and their 'reciprocal action' are phenomena that also come into play on the reflex level. The entire body is affected posturally by the labyrinthine affect pathways. The normal position of the head in standing is such that the horizontal semicircular canals are maintained in the horizontal plane and all other canals are in their respective functional positions.³

Body movement information is furnished by the semicircular canals, whereas body position in relation to the vertical plane is furnished by the otolith organs of the inner ear. Both of these sensory mechanisms work in conjunction with the special kinaesthetic nerve receptors located in the muscles and tendons, the skin senses (especially pressure of the sole of the foot), visual cues or information and, occasionally, auditory information.⁴

Clarity of the visual field definitely affects both body posture and balance.⁵⁻⁷ It is readily seen that the standing position, with its high centre of gravity over a relatively small base, requires continual adjustments of the extensor muscles working over long levers. The constant extensor accommodation introduces fatigue factors of considerable magnitude. This is further compounded by the very nature of dental procedures themselves wherein the dentist is inclined to maintain a 'prolonged posture of readiness' in anticipation of forthcoming action. The favouring of one leg in weight bearing, abduction of the scapulae, coupled with the forward-head position become almost a 'normal' stance in accommodating to the stand-up dental work field.

Karpovich⁸ has noted that it takes 9 per cent more energy to keep the body standing than reclining since more muscles are involved. Individual weight variations are a factor because energy expenditure is greater in more obese individuals.^{9,10} Cardiac output falls in standing and prolonged standing evidences a rise in pulse rate beyond the normal ranges.¹¹ Stroke volume, reduced by decrease in venous return from the lower part of the body, becomes more noticeable in prolonged standing so that considerable pooling of blood and other fluids can ensue.¹²

THE SITTING POSITION

The sitting position utilizes an enlarged base. The centre of gravity is closer to this base. Shorter levers, along with fewer muscle groups, permit an increased number of motions and possible positional attitudes.¹³ An efficient position is easier to hold while sitting than while standing since unstable structures like the hip joints are not involved. With the hips back, the normal curve of the lumbar area of the spine is easily maintained. The chest will then poise above the thighs and the muscles will have less work to do.

Rathbone³ states that "the responsibility for a good sitting posture depends largely upon the chair." If the seat of the chair does not hold the buttocks and pelvis properly, it is impossible to maintain the superimposed weights in balance for any length of time while the mind is busy and the arms and the upper trunk are moving slightly as they do most of the time in sitting. "A good chair should be low so that the knees will be higher than the seat."

Good chair construction should include a narrow seat with backward tilt, a hollow for the buttocks so as to prevent the thighs from slipping forward, and no up-rights at the base of the chair back. Adequate clearance for the popliteal space will prevent pressure in this area which could, if prolonged, produce numbness and reduced circulation in the lower legs. The main area of back support should be just below the shoulder blades at the dorsal-lumbar junction. A chair of this con-

struction will promote a desirable posture for the neuromuscular system which can be carried over when standing.

Excessive support of the neuromuscular system restricts movement. This is countered by increased body effort to overcome the restrictions and resultant greater fatigue. Knee height should be slightly higher than the pelvis, enabling the feet to support some of the weight of the thighs. The thighs, in turn, must receive maximum support along their backs in order to prevent pressure on the nerves in that area.

Excessive cushioning on the chair reduces support and promotes malalignment which, if sustained, will increase neuromuscular tension and the accompanying fatigue.

Adjustable height and back supports, if appropriately used, are desirable.

Rasch and Burke² state that "in sitting down and rising, one is confronted with the problem of supporting the body while the centre of gravity moves backward and downward or forward and upward, as the case may be. In sitting down on a chair, the individual stands with his back to the chair, places one foot slightly to the rear, inclines the body forward from the hips to keep the centre of gravity over the base of support, and lowers the body by relaxing the knee extensors and permitting the joint to bend. In arising from a chair, one foot is placed slightly under the chair, and the individual bends forward from the hips and rises by contracting the knee extensors, transferring the centre of gravity forward so it is supported by the forward foot."

Campbell¹⁴ and Goldthwait¹⁵ indicate that a correct sitting posture, with the lower back curve maintained, conforms with nature's intentions since this places the trunk in a position similar to that which she has clearly shown she prefers for the standing posture.

Although this position is unsuitable for many dental procedures, it can be readily utilized as a beginning or rest position. Movement into the dental work field surrounding the patient's head requires the dentist to assume some unusual kinaesthetic and postural positions which may be beneficial because of their range of motion. But even these, if held for pro-

longed periods, may prove harmful, particularly if the involved joints experience undue stress.³

An additional factor to consider is the constrictive effect of clothing. This seems to be more critical in the sitting position in dentistry. Peripheral circulatory impairment compounds the complications and calls forth greater energy expenditure. Looser fitting apparel is obviously more desirable for the dentist.¹³

The visual tasks of dentistry often require suppression of normal eye movements for brief periods of time. Staring results in posturing of the eyes and can be reduced by utilizing non-ocular muscles of the body to share the load. However, the postural activity of these other muscles may also contribute to the total strain involved in maintaining a functional visual field.

It is the aggregate of strains which arise from the posturing of facial, head and neck, trunk and eye muscles that can form the somatic basis for numerous complaints of eyestrain. The implications here are of particular importance when closing of the visual range between the operator's eyes and the work area is attempted in sit-down dentistry.

LIMITATIONS AND VARIABLES OF MODERN SIT-DOWN DENTISTRY

Sit-down dentistry imposes certain limitations which must be taken into account in spite of the increased freedom of postural variations, decreased energy expenditure of 1.3 K cal./min., diminished pulse rate, and the reduction in cardiac output and stroke volume of the heart. These limitations can be categorized in terms of individual physical, psychological and mechanical variations and equipment, work field and procedural technique limitations.¹⁶

Age, height, weight (and its distribution), right or left handed dominance, visual acuity, and general physical fitness or muscle tone determine the postural and kinaesthetic ranges to which the individual can adapt while keeping fatigue factors at a minimum. A uniform or standardized set of postural rules is no longer considered valid. Wells¹⁷ underscores the common fact that one person

maintains good body alignment with no apparent effort while others cannot assume it even momentarily without great effort or tension. This is further substantiated by McCormick⁴ who has shown that the metabolic cost of maintaining what was formerly considered a well aligned position is greater than the typical fatigue posture. Metheny¹⁸ has summarized it in these words: "There is no single best posture for all individuals. Each person must take the body he has and make the best of it. For each person the best posture is that in which the body segments are balanced in the position of least strain and maximum support. This is an individual matter." The general physical condition influences individual capacity to assume and maintain efficient postural positions. Muscular weakness and lack of vitality predispose one to assume slouched posture as a matter of conservation of energy.²

Even a partial slumping will impose a sizable load on the erector spinae muscles forcing them to keep the trunk from completely giving in to gravity. Any prolonged total slump will affect the ligaments and bones to a deleterious degree. Hence, with the sitting position affording more freedom of postural variations, there are more chances for defects to develop when these positions are maintained for prolonged intervals.³

The posturally and kinaesthetically sound seated position, where the body segments are in balance, can only be maintained for short periods in present day dental practice. This is due to the limitations of the work field and the accompanying impositions of equipment design, functional procedures and approaches. Most arm movements are within the normal and maximum work area ranges as given by Barnes¹⁹ and Squires.²⁰ Some movements extend beyond the maximum range, however. These require forward and lateral leaning positions which necessitate movements of the body, head or extremities that change the centre of gravity and invoke compensatory muscle, tendon, and body segment accommodation.

Individual psychological limitations have a direct bearing on the postural attitudes assumed and the neuromuscular fa-

tigue experienced. Personal likes and dislikes concerning the practice of dentistry, its tension-inducing aspects, and individual interpretations of these aspects can reflect as postural limiting factors. Interpersonal relations, the dental office environment itself, and numerous other possible individual factors can exert a similar influence.

Although considerable progress has been made in operating room and equipment design, further study is urgently needed so that the profession can be geared to meet future demands.

SUMMARY AND CONCLUSIONS

Sit-down dentistry offers distinct postural and kinaesthetic advantages over stand-up dentistry. These include increased freedom from postural variations, decreased energy expenditure and reduced fatigue. Access is also greatly improved, thereby opening new avenues for greater productivity through the more efficient utilization of auxiliaries in a more accessible work field.

These advantages are offset to varying degrees by individual physical body mechanic limitations and by psychological and environmental factors of the dental office. The latter include equipment design, procedural techniques and work field restriction. The segmented structure of the body and its complex system of righting reflexes that work in conjunction with the joints and functionally paired muscle groups imply that it was designed for movement.

The advantages of sit-down dentistry may be diminished when sound principles of body mechanics are disregarded and body positions which exceed normal or maximum work field ranges are assumed and held for prolonged periods. Energy expenditures are greater and circulatory and respiratory freedom is diminished in these static positions. Should these positions become habitual, they may well contribute to the development of compound spinal deformities such as certain combinations of scoliosis, kyphosis and lordosis.

The present dental office environment cannot be expected to meet the demands

that are being projected upon the dental profession in the future. Primary responsibility for work field and procedural accommodation has thus far devolved upon the dentist. Further exploration is desirable so as to determine how equipment can be adapted to accommodate the physical limitations of the dentist, his auxiliaries and his patients. Designs incorporating different relative positions of patient, dentist, and auxiliary personnel would permit balanced use of muscle groups counteracting residual muscular hypertension and fatigue, as well as existing deformity prone conditions.

The dental office affords many opportunities for integrating the body dynamics of all participants with their individual or team duties. We must explore new approaches to the work field and adapt traditional techniques to the physical limitations of the work force. When the dentist works with a well trained chairside assistant, we have an interplay of two multi-dimensional work fields. The dental assistant's responsibilities could be expanded if for no other reason than because she is more efficient than the dentist in performing duties which can be legally delegated and which are within the normal and maximal ranges of her work field. Patient scheduling and procedural control could be adapted to provide variations in dental work areas and a balanced apportionment of time between sit-down and stand-up dentistry. This would favour good body mechanics and reduce the sedentary nature of dental practice.

The value of physical activity to improve postural accommodations and circulatory as well as respiratory efficiency is no longer questioned. Such activity must, however, be consistent with sound body mechanics. It must incorporate motions of full extension and be sufficiently vigorous to provide organic strength for balanced bilateral development.

The creation of an office atmosphere that is psychologically conducive to personality variables is one of dentistry's most interesting challenges. Personal attitudes have always been reflected to a certain degree, but their expression has been greatly limited by preconceptions as to what the dental patient expects and by

stereotyped physical arrangements with 'matching equipment.' Individual application of our knowledge concerning psychological motivation toward working environments needs further encouragement and study. This calls for greater cooperation between dental schools, dental equipment manufacturers and dental practitioners. The dividends from such an enterprise — a practice which is most conducive to efficiently produced high quality dental service — are well worth striving for. Leadership in initiating procedural technique modification should rightly come from our centres of dental education and should thence be disseminated via graduate and postgraduate channels.

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La Fédération dentaire internationale

en face de son avenir

The FDI and its future

With the exception of its size, the profile of the Fédération Dentaire Internationale drawn in this series of brief articles will probably change little in the future. The objectives of the organization, as seen by its architects in the late nineteenth century, maintain today: a clear, autonomous identity for the profession through high educational standards; dental health education of the public; and availability of dental treatment for the poor as well as the affluent. These objectives will continue to be pursued in relation to the ever-changing socio-economic environment of the various countries, and the route will be down the FDI commission path.

There have been as many as 11 commissions, but the present seven (Commission on Armed Forces Dental Services; Commission on Classification and Statistics for Oral Conditions; Commission on Dental Education; Commission on Dental Materials, Instruments, Equipment and Therapeutics; Commission on Dental Practice; Commission on Dental Research and Commission on Public Dental Health Services) would seem to provide the

Sauf en ce qui concerne son importance numérique, il y a peu de chance pour que le profil de la Fédération dentaire internationale, esquissé dans cette série de courts articles, change beaucoup à l'avenir. Les buts de cet organisme, tels que les ont envisagés ses architectes, à la fin du siècle dernier, sont toujours les mêmes: une identité autonome et bien définie pour la profession, grâce à un enseignement d'un niveau élevé; l'éducation dentaire du public; des traitements dentaires à la portée des pauvres comme des riches. La poursuite de ces objectifs continuera dans les différents pays dans un climat socio-économique en évolution continuelle et ce sont les commissions de la FDI qui en détermineront l'acheminement.

La FDI a eu jusqu'à 11 commissions. Il y en a sept actuellement (la commission des services dentaires pour les forces armées; la commission chargée du classement et des statistiques pour les états buccaux; la commission de l'enseignement dentaire; la commission des matériaux dentaires, instruments, équipement et thérapeutique; la commission de la pratique dentaire; la commission de la recherche dentaire et la commission des services de santé publique dentaire). Il semblerait que cela soit suffisant pour permettre de s'attaquer à tous les problèmes qui pourraient se présenter dans un avenir plus ou moins immédiat. Le conseil de la FDI et l'assemblée générale approuvent les recommandations des commissions. Ces recommandations sont

framework for approaching any problem that may arise for some time to come. Commission recommendations approved by the FDI Council and General Assembly will continue to be made available to appropriate individuals and agencies throughout the world for guidance or implementation. While the Federation will continue to be looked to for such direction, its role will remain just that: advisory. As in the past, the FDI will refrain from involvement in any national situation.

The kinds of accomplishments that may be anticipated in the future are indicated by those of the last 68 years—for example, cultivating higher standards of dental education; stimulating greater interest in dental research; promoting dental health education, fluoridation and the observance of other preventive practices; gaining recognition of the logic of rank for medical officers; and publication of the *International Dental Journal*, the *FDI News Letter* and the *Dental Lexicon* in five languages (English, French, German, Italian and Spanish). Among specific areas that will need continuing and expanding attention are forensic dentistry, utilization of auxiliaries and the growing trend toward specialization.

There will be an increase in both member organizations and individual members of the Federation. As membership increases, regionalization will be an accompanying organizational development. This will permit more concentrated attention to the common problems of neighbouring countries. The existing European Regional Organization and the Asian Pacific Dental Federation are examples.

In the increasingly complex health field, dentists will not only find it essential to be a part of organized dentistry in their countries; they will find it advantageous to be associated with their colleagues abroad through supporting membership in the FDI. Thus, it would behoove the national member associations to encourage such membership. Probably the greatest stimulus toward this end would be recommended reading of *The Story of the Fédération Dentaire Internationale* by John Ennis. Not only is this book a remarkably exciting story, filled as it is with the drama of two world wars

transmises ensuite aux individus et agences qu'elles concernent, dans le monde entier, pour servir de guide ou pour application pratique. On demande ce genre de directives à la Fédération, mais son rôle continuera à être exclusivement consultatif. Comme par le passé, la FDI s'abstiendra de toute intervention directe sur le plan national.

Les réalisations des 68 dernières années permettent d'envisager celles auxquelles on peut s'attendre dans l'avenir, par exemple, des efforts pour l'amélioration de l'enseignement dentaire, la promotion de la recherche dentaire, celle de l'éducation concernant la santé dentaire, la fluoruration et l'observation d'autres pratiques préventives; l'acceptation de la logique du rang pour les officiers des services médicaux et la publication de l'*International Dental Journal*, du *FDI Newsletter* ainsi que celle du lexique dentaire en cinq langues (anglais, français, allemand, italien et espagnol). Parmi les domaines de préoccupations qui réclameront une attention continue et plus soutenue, signalons la dentisterie légale, l'utilisation des auxiliaires et la tendance croissante vers la spécialisation.

Le nombre des membres, organisations et particuliers, augmentera, sans aucun doute. Au fur et à mesure de cette augmentation, le développement de l'organisation s'accompagnera d'une régionalisation, ce qui permettra d'accorder plus d'attention aux problèmes que se partagent des pays voisins. L'Organisation régionale européenne et la Fédération dentaire du Pacifique, en Asie, en sont des exemples.

Dans le domaine de plus en plus complexe de la santé, les dentistes se rendront compte qu'il est non seulement essentiel d'appartenir à la dentisterie organisée dans leur pays, mais qu'il est à leur avantage de s'associer à leurs collègues de l'étranger en adhérant à la FDI. Il appartient donc aux associations nationales qui en sont membres, de les encourager dans ce sens. Le meilleur stimulant serait sans doute de leur conseiller la lecture de l'histoire de la Fédération dentaire internationale par John Ennis. C'est non seulement une histoire passionnante relatant la tragédie de deux guerres mondiales qui, par deux fois, a porté atteinte

that twice caused the demise of the FDI and the problems of rebirth; it is a documentary that should inspire every dentist in every country with pride in the leadership that has been and will continue to be the legacy of the profession. Dentists will also be made aware of the opportunity and the obligation they have, as individuals, to help make a better world, for, in the words of an early FDI congress president, J. Howard Mummery, "medicine and science know no politics and no nationality and must steadily pursue their way under all conditions and in all circumstances."¹

1. Ennis, John. *The Story of the Fédération Dentaire Internationale*. London, Fédération Dentaire Internationale, 1967, p. 53.

à l'existence même de la FDI et les problèmes de sa renaissance, c'est aussi un documentaire qui devrait inspirer à tous les dentistes, dans tous les pays, de la fierté pour la ferme direction dont a joui et continuera à jouir leur profession. Il leur donnera conscience aussi de l'occasion qu'il leur est offerte et de leur obligation en tant qu'individu de contribuer à la création d'un monde meilleur, car, comme l'a dit le président de l'un des premiers congrès de la FDI, le Dr J. Howard Mummery, "la médecine et la science n'ont ni opinions politiques ni nationalité et doivent aller résolument de l'avant, quelles que soient les conditions et les circonstances."¹

Harold Hillenbrand

abstracts • résumés

Protect Your Practice with a Health Panel

Joseph Arkin. Tic 27: No. 5:4, May 1968.

The dentist's protracted absence from his office can result in loss of patients and deterioration of his practice. Without someone to care for his patients during his absence, they will go elsewhere for completion of in-process treatment. Death may likewise deprive the dentist's widow and family of a valuable asset unless he has previously taken measures to safeguard the practice pending its disposal.

As a remedy, the author advocates the formation of a panel of six or seven dentists. Each member agrees to work one day a week to handle the patients from the absent dentist, receiving no compensation for time spent and charging nothing for travel or other expenses. A mutually satisfactory agreement should be worked out between the participants after a panel is formed. The

agreement should be drawn up by a solicitor. The suggested terms of such an agreement are outlined.

Penetration of Resin Dental Materials into Enamel Surfaces with Reference to Bonding

M. G. Buonocore, A. Matsui and A. J. Guinnett. Arch. Oral Biol. 13:61, 1968.

The penetration of Bonfil, Sevriton, Addent, Dakor and two experimental adhesives into enamel surfaces was investigated with particular reference to the possibility that mechanical factors due to resin penetration might be involved in the bonding of these materials to acid conditioned enamel surfaces. Radiosulphur³⁵ as SO₄ and basic fuchsin dye did not penetrate the interface between the Sevriton self-curing resin or the adhesive and the enamel surface to which they were attached even after six months to one year in physiological saline solution. Enhanced bonding to acid conditioned surfaces compared to unconditioned ones appear to be associated with the presence of 'prism-like tags' presumably formed by penetration of the resin into enamel spaces created by the acid conditioning.

When surfaces were not conditioned prior to application of the test materials poor bonding resulted with the absence of tags. Differences in bonding strength and/or longevity among the various materials may be related to differences in their physical and chemical properties.

Abnormal Gingival Form

W. A. S. Alldritt. *Proc. Roy. Soc. Med. (Section of Odontology)* 61:137, 1968.

Gingival form may be excessive not only through changes occurring within the tissue but also because of an excessive degree of investment of the roots of the teeth by bone. This developmental anomaly predisposes the gum to inflammation and accounts for many cases of failed gingival surgery.

Marginal gingival recession is generally, if not always, associated with a developmental deficiency of marginal bone, but environmental factors determine the rapidity and extent of the recession.

Interdental recession must be anticipated following treatment of periodontitis, but the degree of recession which persists following healing depends mainly upon the degree of healing which occurs in the underlying bone. This in turn depends upon the configuration of the lesion.

Gum is a mucoperiosteum and therefore its form must always be seen in relation to that of its skeletal support.

Intra-oral Adhesive Bandage

C. A. Babbush. *Oral Surg.* 25:513, 1968.

This study was undertaken to make a clinical assessment of the usefulness of Orahesive bandage, an intra-oral adhesive dressing. The primary purpose of the study was to evaluate the efficacy of the bandage in protecting postoperative wounds from additional trauma, in controlling haemorrhage, and as a means of reducing the need for postoperative allergy sick agents. A secondary purpose was to study tissue tolerance, patient acceptance, and duration of adhesion.

The study was based on clinical observation in 500 patients. As a result of the favourable findings in a preliminary study of 400 cases, a 100-case controlled experimental study was carried out. The results of both the preliminary and experimental studies showed that the intra-oral adhesive dressing can be utilized as an effective oral bandage. The preceding statement is supported by the following observations concerning the effect of the bandage: (1) it promoted advanced

healing and protected the postoperative wound; (2) it reduced postoperative haemorrhage; (3) it reduced the need for postoperative analgesics; and (4) in relation to the duration of adhesion, it was well tolerated by the tissues and acceptance by patients was good.

Secondary properties of the intra-oral dressing are as follows: (1) it is acceptable in its shelf-like properties; (2) it is easy to apply; (3) it is non-toxic; and (4) it is non-antigenic.

Detection of Congenital Dental Anomalies: How Many Films

P. D. MacRae, A. Bodnarchuk, C. R. Castaldi and W. A. Zacherl. *J. Dent. Child.* 35:107, 1968.

An eight-film radiographic survey was compared to a three-film radiographic survey in detecting congenital dental anomalies in the mixed dentitions of 456 children aged 6-9 years inclusive.

The eight-film survey uncovered 51 anomalies consisting of 34 missing teeth, 16 supernumerary teeth and one case of joined teeth. With the three-film survey nine missing teeth and two supernumerary teeth which together accounted for 22 per cent of the anomalies were not detected. With the posterior bitewing survey alone, 16 supernumerary teeth and 15 missing teeth which together accounted for 61 per cent of the anomalies were not detected.

The results indicate that the best posterior bitewing radiographs are inadequate for detection of congenital dental anomalies in the bicuspid area. Maxillary incisor apical views were also inadequate for the detection of congenital dental anomalies in 13 per cent of the cases. At least an eight-film survey is necessary to provide optimum service for a child in the mixed dentition. Extra apical views of the cuspid and molar areas are necessary in patients with malocclusion.

Dentisterie privée ou étatisation: analyse économique

A. I. Hamilton. *J. Amer. Dent. Ass.* 75: 359, 1967.

L'auteur se demande si une profession dentaire libre est préférable à l'étatisation de la profession. Il étudie les facteurs économiques en cause dans les deux cas, de même que les principes économiques de base qui concernent la profession dentaire d'une façon générale. Il établit des critères qui permettent d'évaluer le rendement économique et compare les résultats obtenus avec l'un et l'autre système.

Dans le cas de l'entreprise publique, les moyens de production et de distribution sont entre les mains de l'état qui cherche à servir le plus grand bien de tous. Dans le cas de l'entreprise privée, au contraire, le tout appartient à des individus qui recherchent le maximum de profit possible. Comme les facteurs de production sont rares et qu'on peut les employer de plusieurs façons, il faut décider ce que l'on en fera. Sous le système socialiste, c'est au gouvernement qu'il revient de prendre ces décisions; dans le système capitaliste, les entrepreneurs se laissent guider par les tendances du marché qui elles, représentent les préférences du consommateur.

Le prix des soins dentaires est fixé par l'interaction de l'offre et de la demande. Les forces économiques tendent à établir le prix auquel la quantité de services requis égale celle des services que l'on peut fournir. Si l'importance des profits varie suivant les soins dentaires fournis, c'est parce que les patients sont prêts à payer plus cher pour un genre de soins que pour un autre.

Le marché des soins dentaires est compétitif parce qu'il y a un grand nombre d'acheteurs et de vendeurs, les services offerts étant similaires et les honoraires fixés indépendamment. Le marché des soins dentaires comprend des éléments de monopole parce que les produits varient beaucoup quant à la qualité, que leur mise en marché est réglementée, et que le consommateur connaît assez mal le marché. La demande pour les soins dentaires est fonction des besoins dentaires du public. Il est cependant fort peu probable que ces deux facteurs ne s'équilibrent jamais. La demande n'est pas influencée uniquement par le coût des services. Elle dépend également de facteurs non-monétaires (ignorance, apathie, appréhension). L'offre dépend du nombre de dentistes traitants, de leurs heures de travail et de leur efficience. La productivité est fonction du nombre d'individus qui accèdent à la profession dentaire. Le recrutement est fonction de la comparaison que pourra établir le futur dentiste entre les avantages monétaires et autres que lui offre la dentisterie et ceux que lui offrent les autres professions.

Ceux qui critiquent l'entreprise dentaire privée basent leur argumentation sur les deux suppositions suivantes: (1) Le nombre de dentistes serait insuffisant pour assurer un traitement complet à tous; (2) une partie de la population n'aurait pas les moyens de payer pour les soins dentaires nécessaires. Prenant la dentisterie canadienne et américaine comme exemple d'entreprise privée, et le Service national de santé britannique comme exemple d'entreprise publique, l'auteur évalue les deux systèmes d'après des critères économiques.

Productivité — quantité: Dans l'immédiat, il y a beaucoup de chances pour que les différences quantitatives soient faibles. L'augmentation à long terme de la disponi-

bilité des services est fonction directe de la capacité des facultés dentaires. Or il semble que l'entreprise d'état soit fortement en retard en ce qui concerne les installations scolaires.

Productivité — qualité: Prenant pour acquis que le temps nécessaire pour effectuer un traitement de haute qualité est supérieur au temps que l'on y consacre habituellement en pratique, on réalise qu'un barème standard d'honoraires tend à réduire la qualité, la médiocrité étant mieux rétribuée que l'excellence. Le programme gouvernemental porte sur le volume de traitement et décourage le dentiste qui voudrait faire des travaux plus durables qui sont aussi plus coûteux. Sous le régime de l'entreprise privée, on reconnaît les variations de compétence et le consommateur peut choisir entre différentes qualités de services. Le contrôle du gouvernement produit donc une diminution de la qualité.

Efficience: Dans le cadre des programmes gouvernementaux, le temps consacré aux soins se trouve réduit. Il est en effet nécessaire de compléter des déclarations de toutes sortes, de se mettre en correspondance avec des fonctionnaires, de se rendre à des séances d'appel, etc.

Distribution géographique: Le gouvernement britannique n'a pas réussi à modifier la répartition géographique des dentistes. En conséquence, les disparités dans le rapport dentiste/population sont plus grandes qu'elles ne le sont dans le cas de l'entreprise privée.

Distribution par groupes d'âge et de priorité: Bien que le gouvernement britannique ait essayé par différents moyens d'augmenter l'offre et la demande dans le cas des traitements à donner aux enfants, ces mesures ne semblent pas avoir donné grand résultat.

Distribution — revenu: La proportion de revenu personnel dépensé pour les soins dentaires est inférieure en Grande-Bretagne à celle du Canada et des Etats-Unis. Il faut cependant établir une distinction entre le cas de ceux qui ne peuvent pas payer pour des soins dentaires et celui de ceux qui préfèrent dépenser leur argent autrement.

Progrès de la profession: L'entreprise privée progresse plus vite que l'entreprise d'état. Le succès remporté aux Etats-Unis par les cours de perfectionnement et les groupes d'étude manifeste d'un désir de perfectionnement que l'on ne rencontre pas au Royaume-Uni. L'éducation des patients laisse aussi à désirer dans le cas de l'entreprise gouvernementale, car l'état hésite à rétribuer celui qui rend des services aussi impalpables.

Stabilité: Le gouvernement britannique devenu principal acheteur de soins dentaires s'est servi de son pouvoir de négociation pour réduire les honoraires. Il a ainsi créé une situation instable et beaucoup de mécontentement au sein de la profession dentaire.

in memoriam

Ernest Charron

Avec le docteur Charron disparaît la plus belle figure du monde dentaire et universitaire du Canada; il vient de partir après une longue maladie qui l'avait éloigné de la profession et de l'université.

Fort d'une personnalité originale où l'énergie se pare de grâces et d'une aimable sensibilité, il était porteur de dons que l'on rencontre rarement chez un même homme.

Elégance de l'esprit; sûreté de jugement; libéralisme des opinions; tenacité dans l'effort; générosité du cœur; affabilité de l'accueil préparant à la cordialité future des rapports; souplesse et persévérance dans l'action diplomatique; séduction physique conquérant toutes les sympathies, telles ont été les qualités que possédait le docteur Charron.

L'œuvre magnifique qu'il a accomplie, constitue un exemple pour tous les dentistes du Canada. Il est un de ceux dont le souvenir ne s'effacera pas de notre cœur, ni de notre mémoire, car il a beaucoup aidé à faire de notre profession, une profession honorable et honorée.

En rendant un hommage reconnaissant à sa mémoire, nous prions sa famille de trouver ici l'expression de nos regrets émus et de notre profonde sympathie.

Paul Geoffrion

Ernest Charron is dead. The former dean of the Faculty of Dental Surgery, Université de Montréal, died after a lengthy illness on January 10. Practitioner, teacher, writer and scholar of note, Dr. Charron took an active part in the progress of dental education and evolution of organized dentistry.

Dr. Charron was born in Richmond,

Quebec. After graduating from Laval's (now Université de Montréal) dental faculty in 1913, he embarked on postgraduate studies in anaesthesiology and oral surgery. The quest for knowledge led him to Philadelphia, New York, Chicago, Boston and Paris. Between visits to foreign centres of learning, Dr. Charron served his alma mater where he rose from lecturer and clinician in 1915 to become professor and head of the Department of Oral Surgery and Anaesthesia by 1925. Five years later he was named secretary of the faculty, a position which he held for 14 years. A major turning point in Dr. Charron's career was his appointment in 1944 as dean and director of studies. In that capacity he initiated a major reorganization of the university's dental curriculum which ultimately raised his faculty to a position of eminence among the nation's dental schools.

In a career studded with countless accolades, Dr. Charron became president of the College of Dental Surgeons of the Province of Quebec (1924-27), president of the International College of Dentists (1952), and fellow in dental surgery of the Royal College of Surgeons of England (1948) and of the Royal College of Surgeons of Edinburgh (1951). He was an honorary member of the Canadian Dental Association and an officer of L'Académie de France. In 1949 he was named dean emeritus of Montreal's Faculty of Dental Surgery. Nine years later Dalhousie University conferred on him an honorary doctorate of laws.

Dr. Charron is survived by his wife, the former Antoinette Champagne; two daughters, Jacqueline and Louise; his son André; and by nine grandchildren. The most sincere sympathy of Canadian dentistry is offered to Mme. Charron and the family.

The search for reasoned compromise

The dentists who attended the Canadian Dental Association's Aims and Objectives Conference last February 24-25 have, as the saying goes, spoken a mouthful. Their proposals will take some digesting.

The participants were asked to identify responsibilities and establish priorities for services to be provided by the national association. They stated their basic premise in clear terms: "that actions resulting from implementation of the CDA's by-laws are not mandatory on the corporate members and that provincial jurisdiction over matters relating to health must be respected at all times."

There will be few arguments with that end, but there may be plenty of debate over some of the means chosen to reach the end — especially if they emasculate the CDA. For however softly it may be worded, a threat is a threat; and that, unhappily, is what was buried in the Ontario Dental Association's two recent resolutions about fiscal support of the CDA. In translation they seem to say that the Ontario Dental Association will reduce its grant unless the CDA toes the line and conforms to the will of the Ontario association. The implementation of these resolutions may be a remote contingency, but it is disheartening that such intimidation should be under consideration at all. In the first place, the services which are thereby imperilled do not belong wholly to the dentists of Ontario. All Canadian dentists have a stake in the national association. This is not to underestimate the Ontario Dental Association's own investment of cash, hard work and dedication; but the final product is partnership, and all partners have rights in it. Much more important, however, is the effect this action has on other corporate members. In no other manner would they be exposed to more massive injury.

The fact is that the question of who can speak for whom, of what organization can speak for the profession, must nearly always be answered ambiguously in a federal system where powers are shared between two political levels. We shall have to live with this kind of ambiguity as long as Canada has a federal system of government. That is a fact that should call for a sincere search for compromise without threats. Of course it won't be easy. It is hard enough for one organization to agree on reform, but vastly more difficult when eleven organizations and eleven sets of political sensibilities are involved. But it is not impossible if the attempt is made in a spirit of real cooperation with a determination to agree rather than to prove the other fellow wrong.

We simply must not let latent regional suspicions override the plain interests of the entire profession. The matters which still divide us must be ironed out at the Board of Governors meeting in July. The way will then be open to amend the CDA's by-laws to the satisfaction of all.

A la recherche d'un compromis raisonné

Les participants à la Conférence sur les buts et les objectifs de l'Association dentaire canadienne les 24 et 25 février derniers ont pu discourir à bâtons rompus. Les propositions qu'ils ont formulées vont prendre un bout de temps à digérer.

On leur avait demandé d'établir les responsabilités et les priorités des services que l'association nationale devrait fournir. Le principe fondamental a été énoncé dans un langage très clair: "que les actions consécutives à l'exécution des règlements de l'ADC ne sont pas obligatoires pour les membres corporatifs et que la juridiction provinciale sur les affaires de santé doit être respectée en tout temps".

Tout le monde peut bien tomber d'accord sur cette conclusion, mais les moyens choisis pour atteindre cette fin sont discutables, particulièrement s'ils émasculent l'ADC. Une menace reste une menace, même si elle est faite d'une voix douce; et voilà malheureusement ce que l'on trouve enfouie, dans les deux résolutions de l'Association dentaire de l'Ontario sur les ressources fiscales de l'ADC. Une version semble dire que l'Association dentaire de l'Ontario diminuera sa subvention à moins que l'ADC ne se conforme au mot d'ordre et décide d'obéir aux décisions de l'association ontarienne. Il est peu probable que ces résolutions soient jamais exécutées, mais il est décourageant de voir que ces menaces soient même à l'étude.

En premier lieu, les services qui sont compromis de ce fait n'appartiennent pas seulement aux dentistes de l'Ontario. Tous les dentistes canadiens ont des intérêts dans l'association nationale. Cela ne veut pas dire qu'il faut sous-estimer la mise de fonds importante d'argent et de travail de l'Association dentaire de l'Ontario, mais le résultat final est une "association", et tous les associés y ont des droits. Deuxièmement, ces mesures auraient des conséquences graves pour les autres membres corporatifs et il serait difficile de leur faire un plus grand tort.

Dans un système fédéral où les pouvoirs sont partagés entre deux niveaux politiques, il est toujours difficile de décider qui a le droit de parler pour un autre et quel organisme peut parler pour la profession. Cette interprétation ambiguë existe parce que le Canada se gouverne par un système fédéral. Il faut voir les choses bien en face et rechercher sincèrement un compromis sans proférer de menaces. Naturellement, cela ne sera pas facile. Il est déjà difficile pour une seule organisation de consentir à des réformes, et encore plus difficile lorsque onze organismes et onze groupes de sensibilités politiques sont engagés. Mais ce n'est pas une tâche impossible. Plutôt que de prouver qui a raison, les délibérations doivent se faire dans un véritable esprit de coopération et avec la détermination de s'entendre.

Nous ne devons pas permettre qu'une méfiance bornée l'emporte sur les intérêts de la profession toute entière. La polémique qui nous divise doit être résolue à l'assemblée du Conseil des Gouverneurs en juillet. Les règlements de l'ADC pourront alors être modifiés à la satisfaction de tous.

Injuries to Deciduous Incisors

To the Editor:

I would like to commend Dr. MacGregor for his very interesting article on the management of injuries to deciduous incisors (January 1969). I must, however, question some aspects of the rationale for diagnosis and treatment.

It is the broken down blood pigments reflected through the enamel surface which are responsible for the colour of a tooth which has been injured traumatically. Colour should not be used as a criterion for the histological status of the pulp; clinical tests and radiographs would be more reliable. Therefore, how does one have the right to extract a tooth which is 'black' when, in reality, the pulp of such a young tooth may have recovered?

It appears that injury to the permanent tooth occurs at the time of impact of the deciduous tooth upon the developing successor. Why add insult to injury by suggesting that the dentist is responsible for causing a further inflammatory response in the area of the developing tooth just because of the new position of the deciduous tooth? After all, will the newly positioned deciduous tooth further affect the permanent one?

Assuming that the crown of the permanent tooth is fully calcified and the deciduous tooth is non-vital, why suggest extraction of the infected tooth? Why not treat the infected tooth conservatively? After all, we do pulpotomies in infected deciduous molars without doing any clinical harm to the crown of the developing bicuspid.

If there is concrete histological evidence to justify the extraction of these teeth, I shall favour the radical treatment advocated by Dr. MacGregor. Moreover, it would be interesting to know the number of clinical studies that support his statements.

Mark Lazare, DDS,
612 St. John's Rd., Pointe Claire, Que.

To the Editor:

I appreciate the opportunity to clarify the interesting points that Dr. Lazare raised about my article.

I deliberately directed attention to the effects of injuries to the deciduous teeth of very young children when the permanent tooth follicle is at an early stage of calcifi-

cation and not when the crown is fully calcified.¹

I agree that blood pigments can be reflected through the enamel, but I am less optimistic about recovery of the pulp after the tooth has turned black. MacDonald, Hare and Wood² reported "that bacteria can be recovered from the pulp chambers of the majority of traumatically devitalized teeth, even though there is no direct communication between the pulps and the oral cavity. . . . It is probable that they reach the pulp from the gingival sulcus via the lymphatics and blood vessels of the periodontium. It seems likely, therefore, that in many instances bacteria rapidly become established in the pulp tissue following injury."

How does one obtain a reliable clinical vitality test from a 14 month old child or from a 2½ year old? Clear radiographs are usually difficult and sometimes impossible to achieve. When available, they do not tell the whole vitality story. Moreover, we see the child at the acute stage, when the parent is concerned. But how often is the child seen thereafter in the average dental office, and how often is the parent likely to observe any change in the tooth or the surrounding tissue?

My article showed that retention of injured deciduous incisors entails a definite risk. Their removal safeguards the child's health, may aid the developing permanent teeth, and does no harm to the development of normal occlusion.³ I have observed external resorption in many deciduous incisors extracted some weeks or months after they became discoloured. This condition resembles, but is less marked than, the resorption following tooth implantation and indicates rejection on the part of the host. Resorption occurs more often on the labial and lingual root surfaces, probably because of the greater traumatic impact on these surfaces (Figure 1). Trauma is important in the causation of resorption but some authors⁴ regard the prolonged effects of inflammation as a significant predisposing factor.

Dr. Lazare asks why an infected deciduous tooth cannot be treated conservatively. The answer is given by Porteus⁵ who recently



FIGURE 1

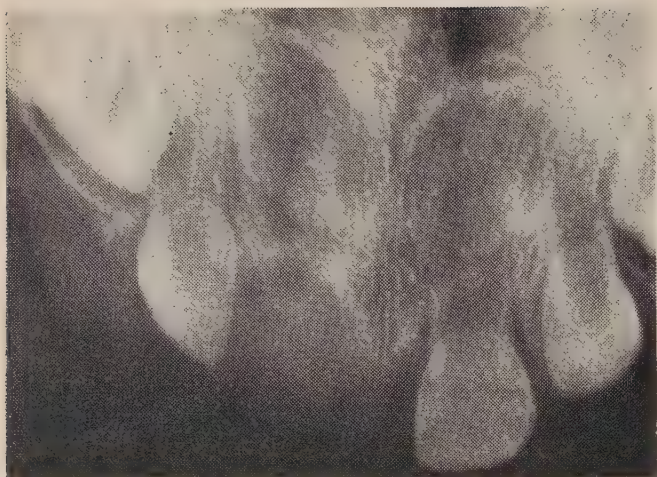


FIGURE 2

showed the result of an infected deciduous molar on the underlying permanent tooth.

I disagree with Dr. Lazare's views about displaced deciduous incisors. I have often seen patients where the physician or dentist, observing a missing upper deciduous incisor, has told the parents that the tooth was knocked out. Several days or some weeks later the site of the injury became an infected, sloughing mass. Radiographs showed that the incisor was still present but had been driven apically out of sight. Its retention in the face of trauma, infection or both makes normal development of the permanent successor questionable and may temporarily impair the patient's health.

Figure 2 is a radiograph from a 9½ month old child. The deciduous incisor was lost when she fell with a spoon in her mouth. The pulp was completely amputated, leaving the hollow root with a wide open apex and razor-like margins. Had she sustained a blow by hitting the riser of a stair, the tooth would have been driven apically to encroach on the soft, cellular permanent tooth follicle. It would be wrong to leave such a displaced tooth, which can then be considered a foreign body, in contact with the rapidly growing permanent tooth follicle. The decision to retain these teeth is too often governed by fear of facing up to the job of extraction. These teeth are easily removed. I hold a sterile towel against the palate behind the area involved and let it extend over the chin. This blocks off the rest of the mouth. The imbedded tooth is then easily removed with a curved elevator.

My article was intended to encourage young dentists to look at this problem more seriously and stimulate them to keep accurate records of all accident cases with which they come in contact. The time lapse between an accident and the eruption of the permanent tooth may be five or six years. Both parent and the dentist may have forgotten the event by then, and the anomaly in the permanent tooth may not be recognized as an aftermath of the accident. Moreover, insurance is often a factor in these

cases, and the dentist must be fully aware of the responsibility he assumes when he signs an insurance release.

S. A. MacGregor, DDS,
3050 Yonge St., Toronto, Ont.

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4. Avery, J. K., Meyers, R. A. and Hale, L. E. A study of mineral density surrounding resorption sites in teeth. Amer. J. Anat. 120:55, 1967.
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William Osler and Charles H. Mayo

To the Editor:

I have looked in likely places, including Osler's textbook, without finding the quotation "There is not one single thing in preventive medicine that equals mouth hygiene and the preservation of the teeth" which Dr. Menzies Campbell ascribes to Sir William Osler (March Journal). I doubt if Osler said it; I doubt if he said it that way even if he did present such an idea, but, of course, one can never be sure. I have a list of about 40 alleged quotations from Osler which I look at before I read anything of Osler's in the hope that I can run them down. You may be familiar with the collection of *Osler's Aphorisms* (Charles Thomas & Sons, Springfield, Illinois) that I edited. These were based on a few notes left by my father who attended Osler's rounds for a couple of years when he was an undergraduate student in Baltimore. I will add the quotation submitted by Dr. Campbell to this list and if I should ever find anything more definite I will certainly bring it to your attention as well as Dr. Campbell's.

W. B. Bean, MD,
University Hospitals, Iowa City, Iowa, USA.

Reader Detects a Flaw

To the Editor:

One usually needs a microscope to detect an error in the Journal. But I note that when the January 1969 issue is placed upon the library shelf, the identification on the spine indicates January 1968.

H. J. Hann, DDS, MPH,
1461 Sixth Ave., Prince George, BC.

Mea culpa. (Ed.)

The Association

Corporate Member Delegates, CDA Executive Council Air Mutual Problems in Toronto

By-laws of the Canadian Dental Association were discussed when the CDA Executive Council and delegates from the CDA's 10 provincial corporate members convened February 24 and 25 in Toronto to examine the aims and objectives of the national association.

Among the subjects considered at the meeting were the jurisdictions of respective national and provincial dental organizations; the status, rights and duties of corporate members; composition, power and duties of the Board of Governors and Executive Council; duties of elective officers and appointive officials; and the composition and duties of CDA councils, committees and sections.

Recommendations from the conference were reviewed by the Executive Council February 26-28. The Council will submit these proposals, together with its opinions, to the Board of Governors in Montreal July 7-9. Members of the Board will be asked to evaluate each recommendation and determine principles which should guide subsequent revision of the by-laws. The necessary amendments will then be drafted for presentation at the 1970 meeting of the Board of Governors.

Representing the corporate members at the Aims and Objectives Conference were R. A. Downton and K. F. Walsh, St. John's, Newfoundland; J. E. Merritt and C. E. Dexter, Halifax, Nova Scotia; G. D. Barrett and C. D. Mollins, Charlottetown, Prince Edward Island; G. R. Rowe, Nash-

waaksis, and D. E. Williams, Moncton, New Brunswick; G. M. Dundass and R. M. Le Blanc, Montreal, Quebec; Ivan Hrabowsky, St. Catharines, and K. F. Pownall, Toronto, Ontario; A. J. Shinoff, Winnipeg, and F. Ollinik, Morden, Manitoba; F. T. Wihak, Regina, and F. R. Smith, Saskatoon, Saskatchewan; L. G. Mandin, St. Paul, and G. E. Decker, Edmonton, Alberta; L. E. English, Kamloops, and W. R. Upton, Vancouver, British Columbia.

The following officers represented the CDA Executive Council: Henri Brouillet, president; H. R. MacLean, president-elect; W. P. Munsie, past president; G. M. Dewis, treasurer; A. L. MacIsaac, W. J. Spence, Louis Bernier and J. B. Taylor.

Nine Corporate Members Set CDA Grants

The 1969 CDA grants from the Newfoundland Dental Association, the Nova Scotia Dental Association, the New Brunswick Dental Society and the College of Dental Surgeons of British Columbia have been set at \$65 per registered dentist. The Alberta Dental Association's grant will be \$60 per capita. The Saskatchewan College of Dental Surgeons will compute its 1969 grant on the basis of \$55 per registered dentist. The Prince Edward Island Dental Society and the Manitoba Dental Association have set their grants at \$50 and the Ontario Dental Association grant continues for another year at \$40 per registered dentist. Last December the Ontario Dental Association voted to reduce its per capita grant to \$30 in 1970 but also passed a resolution to reconsider this

decision after the CDA Aims and Objectives Conference February 24-25.

PR Consultants to Aid CDA Communications

A Toronto-based public relations firm has been invited to examine the activities of the Canadian Dental Association and recommend methods of achieving more effective communication between individual members and the Association. The Executive Council, at its February 26-28 meeting, authorized a preliminary survey by Carleton, Cowan Public Relations to evaluate the CDA's services to its members and establish the members' attitudes toward the national association. Results of the survey are expected to pave the way for more effective communications utilizing verbal, visual and print media.

Enlarged Education Council Proposed

The CDA Council on Education will ask the Board of Governors to approve a proposal to reconstitute and enlarge the council from the present six to nine members. The decision follows in the wake of earlier discussions between representatives of the Council, the Association of Canadian Faculties of Dentistry, the National Dental Examining Board of Canada and the Royal College of Dentists of Canada on how to mesh the knowledge and experience of all four groups. At its February 5-7 meeting, the Council recommended:

That future members be drawn from a pool of names derived from the ACFD, NDEB, RCD(C) and CDA members at large;

That nominations to the Council reflect geographic and linguistic considerations; and

That the Council's membership include full-time and part-time teachers; senior academic administrators; dentists not directly involved in dental education; dentists or others familiar with the work of the ACFD, NDEB and RCD(C); and dentists or others whose background and in-

terest are appropriate to the functions of the Council on Education.

The Council voted to seek amendments of the Association's by-laws (1) "to grant the privilege, without CDA financial responsibility, of non-voting participation in the Council on Education of one representative each of the ACFD, NDEB and RCD(C)," and (2) to authorize the Council "to accredit undergraduate, postgraduate and graduate programs in dentistry and programs in dental hygiene and periodically review such accreditation."

In other actions, the Council agreed:

That there is a need for a limited number of dental hygiene degree programs at the university level;

That there is a continuing need for dental hygiene diploma programs at the university level; and

That dental hygiene diploma programs can also be developed in a non-university setting provided they meet the accreditation standards established by the Council.

Education and Executive Councils Act on Internship and Auxiliary Accreditation

The CDA Council on Education, at its February 5-7 meeting, received two resolutions from the Ontario Dental Association bearing on hospital dental services and internship programs and courses of training for auxiliary personnel. The resolutions asked that the CDA (1) transfer responsibility of accrediting hospital dental services and internship programs to provincial licensing bodies, and (2) recognize that accreditation of programs for auxiliary personnel is a provincial responsibility. After due consideration, the Council on Education adopted the following resolutions:

"Whereas approval and/or accreditation, at the national level, of facilities and programs in dental education permit interprovincial and international recognition of such facilities and programs, and whereas CDA approval and/or accreditation do not preclude accreditation at the provincial level," therefore be it

"Resolved, that the CDA continue to approve and/or accredit facilities and programs in dental education as well as

those which provide for training and education of dental auxiliaries," and be it

"Resolved, that continuing approval of hospital internship programs be subject to reassessment at least every five years [and that] responsibility for reapplication rest with the hospital concerned."

At its February 26-28 meeting, the Executive Council concurred with the views expressed by the Council on Education and voted to transmit the Council's resolutions to the Board of Governors. The subject matter of these resolutions will also be covered in the Executive Council's report to the Board of Governors about the February 24-25 CDA Aims and Objectives Conference.

New Recruitment Brochure Available

The CDA Council on Education has published a new illustrated brochure on dental education in Canada. Titled *Dentistry*, the 12 page booklet describes career opportunities in dentistry for men and women, requirements for admission to dental schools, dental aptitude tests, undergraduate and postgraduate studies, and includes suggestions for financing dental education. Other sections deal with dental hygienists, dental assistants and dental laboratory technicians. Free sample copies may be obtained from the Secretary, CDA Council on Education, 234 St. George St., Toronto 5, Ont.

DENTISTRY

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on February 28: Government Bond Fund \$13.761; Corporate Bond Fund \$14.944; Common Stock Fund \$25.705. Total assets (market value) of the plan were \$8,842,234.76.

The following common stock portfolio purchases and sales occurred during the preceding month: Bought 2,500 shares Equity Funding Corp. of America; and 2,000 shares Kaiser Steel; Sold 1,000 shares McDonald's Corporation; 2,500 shares Harvey Aluminum; 1,000 shares Holiday Inns; and 1,500 shares Loew's Theatres.

For further information please write to the Administrator of CDA-sponsored Pension and Insurance Plans, Professional and Industrial Pensions Ltd., 2249 Yonge St., Toronto 7, Ont.

Canada and the Provinces

Issue Warning about Drug, Pentazocine

The Department of National Health and Welfare has issued a warning about the drug pentazocine (Talwin, Winthrop Laboratories). A potent non-narcotic analgesic, pentazocine may show addiction characteristics in patients with a background of drug abuse. Withdrawal symptoms have also been noted after the drug is abruptly discontinued.

The use of pentazocine in anticipation of pain rather than its relief should be avoided since tolerance may develop if it is given in repeated doses over a prolonged period of time. Dentists who observe any adverse reaction with pentazocine are asked to inform the Drug Adverse Reporting Program, Food and Drug Directorate, Department of National Health and Welfare, Tunney's Pasture, Ottawa 3, Ont.

Citizens' Group to Raise \$2,090 for Dentists' Trip

A citizens' committee has been formed to raise \$2,090 to help finance a trip by 15

Sault Ste. Marie physicians and dentists next June to examine Indians in remote settlements between James Bay and the Manitoba border.

The dentists and physicians are providing up to a week of their time free, the federal government is providing medical facilities and the Ontario government will fly the group to the Indian settlements.

Harvey Simms, a local high school teacher and organizer of the citizens committee, said the \$2,090 would cover the costs of food, insurance and other incidental expenses of the operation.

International Items

Oral Surgery Conference Set June 16-17

'Surgical Pathology of the Jaws' is the subject of the American Society of Oral Surgeons' 1969 Continuing Educational Conference. The conference will be held in Washington, June 16-17, at the Washington Hilton Hotel.

Subject coverage includes 'Embryology' by R. J. Gorlin, University of Minnesota; 'Physiology and Responses of Bone' by P. J. Boyne, University of California at Los Angeles; 'Infectious Diseases' by I. I. Meyer, Tufts University; 'Non-Inflammatory Diseases' and 'Benign Non-Odontogenic Tumours' by E. C. Hinds and D. G. Walker, University of Texas Dental Branch.

W. G. Sprague and G. H. Green, US Armed Forces Institute of Pathology, will discuss 'Odontogenic Tumours' and 'Malignant Tumours.' 'Fibro-Osseous Lesions' will be presented by C. A. Waldron, Emory University. Sidney Blackman, Northwestern University, and G. E. Lilly, Letterman Army Institute of Research, will cover 'Usefulness of X-Ray' and 'Deductive Differential Diagnosis.' R. B. Shira, US Army Dental Corps, will present 'Treatment Planning.' A clinico-pathological conference on osseous lesions will conclude the two day session.

The conference is open to all members of the health professions. The registration

fee for ASOS members, candidates and applicants is \$50, \$35 for residents and \$75 for non-members of ASOS. The program and registration forms may be obtained from the American Society of Oral Surgeons, 211 East Chicago Avenue, Chicago, Illinois 60611, USA.

Dental Organizations

Dr. Reid Outlines Structure for Proposed New BC Dental Organization

J. F. Reid, president of the British Columbia Dental Association, has released further details of a proposed new organization for BC dentists. Tentatively designated as the Dental Federation of British Columbia, it will replace the College of Dental Surgeons of BC and the BC Dental Association.

Writing in the February *BCDA News Bulletin*, Dr. Reid explained that "all dentists licensed to practise in British Columbia will belong to the new organization. They will be led by one man through a direct line of authority from top to bottom. There will be three main divisions; a professional affairs division, with duties paralleling those of the present College; a public affairs division with duties encompassing those of the BCDA; and a business affairs division concerned with the administration of the organization. All component societies will be represented by a governor on the ex-

J. Charlotte Whitney, Port Credit, Ontario, is president of the Canadian Academy of Periodontology.



ecutive board along with others elected at large."

A committee, comprising the presidents of the BCDA and the College and legal counsel to the College, is working to implement the change.



W. Ross Upton

Dr. Upton Resigns BC Posts

W. Ross Upton, Vancouver, resigned March 15 after serving almost 13 years as executive director of the College of Dental Surgeons of British Columbia, the BC Dental Association and the Vancouver and District Dental Society. Dr. Upton will join the Department of Veterans Affairs and has accepted a staff appointment at Shaughnessy Hospital, Vancouver.

A native of Calgary, Dr. Upton graduated from the University of Alberta in 1942. During World War II he served overseas with the Canadian Dental Corps. He practised in Calgary from 1946 to 1956, then moved to Vancouver to take up the administrative posts which he now relinquishes.

New Officers Named by Manitoba Association

Fred Ollinik of Morden, Man., was recently elected president of the Manitoba Dental Association. He succeeds C. D. Rusen of Winnipeg. Named with Dr. Ollinik were A. J. Shinoff, Winnipeg, vice-president; and D. B. Proctor and G. W. Danzinger, Winnipeg, and Joseph Slogan, Selkirk, members-at-large.

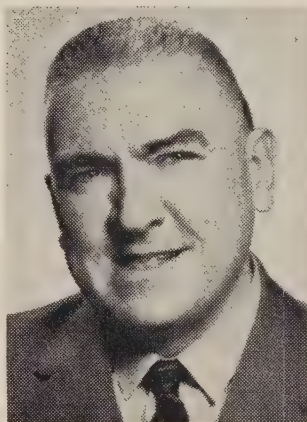
Dr. Wihak is President of Saskatchewan College

F. T. Wihak of Regina was recently named president of the College of Dental Surgeons of Saskatchewan. He succeeds R. J. Fraser of North Battleford. C. G. Halliday, Saskatoon, was appointed vice-president.

Dr. Mussells Installed by Montreal Dental Club

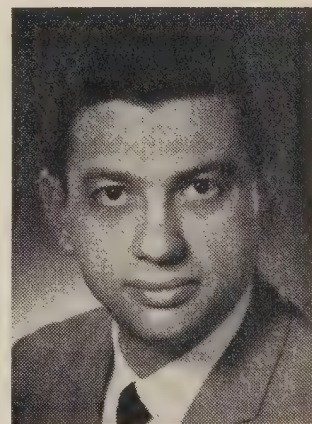
H. L. Mussells was recently installed as president of the Montreal Dental Club at that organization's annual meeting. He succeeds G. D. Armstrong.

Other members of the executive are: G. M. Dundass, president-elect; J. D. Fenwick, secretary; N. I. Hanna, treasurer; A. R. Ramsay, historian; and A. J. Schutz, chairman of the Fall Clinic.



M. H. Wechsler

H. L. Mussells



Quebec Orthodontists Elect Dr. Wechsler

M. H. Wechsler, Montreal, was recently elected president of the Province of Quebec Association of Orthodontists. He succeeds R. W. Faith, also of Montreal. Other officers named were J. R. Nadeau, vice-president, and H. L. Levitt, secretary, both of Montreal; J. E. LeMay, Sherbrooke, treasurer; and C. Vachon, Montreal, active member without portfolio.

Dr. Lamb Addresses Montreal Club

Inlays, pontics and associated problems received a thorough airing when R. T. Lamb, assistant professor of fixed partial denture prosthesis at McGill University, addressed the February meeting of the Montreal Dental Club.

Dr. Lamb uses cast pins to increase retention and extends the casting wherever possible while avoiding full coverage. He also stresses the importance of preserving the integrity of the periodontium by avoiding insult to the gingival sulcus.

Canadian Dental Schools

Conference Examines Role of Hospitals in Dental Education

Recommendations for a dental department in every teaching hospital and dental staff representation on hospital advisory committees received unanimous endorsement at a January 27-28 conference on the role of hospitals in dental education. The conference, sponsored by the CDA Council on Education and held at CDA Headquarters, drew representatives from every Canadian dental school.

The participants agreed that graduate programs should be administered by a faculty of graduate studies but that development, teaching and staff should originate from a faculty of dentistry. Degree-granting graduate training should be oriented to the development of well qualified dental teachers. The teaching hospital should be considered as an extension of the faculty's clinical facilities. The hospital should have a dental department approved by the CDA Hospital Services Committee.

The conference called for improved communication between the medical and dental professions. It also suggested that the CDA apply again for a seat on the Canadian Council for Hospital Accreditation. Other recommendations included: more adequate financial support for 'total patient care' within the teaching hospital; the provision of hospital experience for

undergraduate students; and more extensive facilities for the training of dental interns. The conference urged teaching hospitals to support and encourage research within the hospital by all departments of the faculty of dentistry.

Alberta Faculty Announces Continuing Education Courses

The Faculty of Dentistry, University of Alberta, will schedule nine courses of continuing education between April and November 1969. The following dates and subjects have been announced:

April 18-19: occlusal management — surgical procedures;

April 22-25: basic endodontics for the general practitioner;

May 1-3: practice administration of dental auxiliaries — selection, training and utilization;

May 5-9: interceptive orthodontics for the general practitioner;

May 24: paedodontics — research and practice in preventive dentistry;

September 19-20: oral surgery I;

September 22-24: complete denture prosthodontics I;

October 16-18: restorative dentistry — pin amalgams; and

November 4-7: oral medicine — laboratory tests and diagnostic aids used in dentistry.

Further details may be obtained from R. C. McClelland, Faculty of Dentistry, University of Alberta, Edmonton, Alta.

Regional Conventions

Ontario CSDC Sets May 17 Meeting

The Ontario Chapter, Canadian Society of Dentistry for Children, will hold its annual meeting May 17 at the Royal York Hotel, Toronto. The following program has been announced:

- E. G. Sonley, Toronto: Dental amalgam — spherical versus conventional alloys
- R. J. Gibbons, Boston: Bacterial specificity in the aetiology of dental caries and periodontic disease

- A. M. Hunt, Toronto: Planning for dental care — the public interest (luncheon address)
- R. E. Jordan, London: Effects of operative procedures on the dental pulp
- R. J. Gibbons, Boston: Extracellular bacterial polysaccharides in the formation of gelatinous dental plaques.

Economics

Fourth Survey of Practice Begins in April

The CDA Bureau of Economic Research will mail questionnaires to all Canadian dentists in April in connection with the fourth Survey of Dental Practice. Previous surveys were made in 1954, 1959 and 1964. They provide the Association with answers to many questions posed by governments, the public and members of the profession. Typical survey questions are: What percentage of a dentist's gross income is spent on expenses? How do rural and urban incomes compare? Do earnings diminish with advancing age? What is the average dentist's net hourly income? The responses are completely confidential and anonymous.

Temporary Cut in Ontario Welfare Plan Payments

The Ontario Dental Welfare Plan has been forced to reduce payments temporarily for dental services rendered to public assistance beneficiaries. Accounts for treatment rendered prior to February 18 and submitted before March 1 were paid in full provided they did not exceed 90 per cent of the Ontario Dental Association fee schedule. Accounts for treatment rendered since February 18 are now being paid in full provided they do not exceed 70 per cent of the fee schedule.

The change, according to a memorandum from the Ontario Dental Association, is necessitated by the inclusion of new beneficiaries and higher dental fees. The Ontario Dental Welfare Plan is a public assistance dental program administered by the Ontario Dental Association.

Quebec Official Favours Health Insurance by Stages

Quebec will establish health insurance when the province requires and can afford such a program, according to Laurent Lizotte, Quebec's deputy health minister. He recently told the Société Dentaire de Montréal that his government is now looking into the possibility of adding pharmaceutical benefits to the existing medical care scheme for public assistance beneficiaries.

Dr. Lizotte said that the provincial medical welfare board agrees that oral surgeons should be reimbursed like general surgeons for services rendered in a hospital but that only the government can pass the necessary amending legislation.

He said that his government has not yet reached any decisions regarding the report of the Castonguay Commission on Health Services. The commission advocated dental services for children and expectant mothers. Dr. Lizotte reminded the audience that the provincial health minister has always supported the principle of universal health insurance, with universality attained by stages.

ADA Urges Formation of Separate Underwriting Agency for Dental Service Plans

The American Dental Association has officially recognized the need for the formation of a separate underwriting agency to function as an adjunct to dental service plans in the United States. The new policy is embodied in the following resolution adopted by the ADA House of Delegates last October 31:

"Resolved, that the American Dental Association recognizes the critical need for the establishment of a national agency, in the form of an insurance company wholly owned by dental service plans and other not-for-profit segments of the organized profession, to underwrite group dental care programs in states where dental service corporations do not exist and in states where dental service corporations are unable to generate sufficient underwriting

capital through their own resources, and be it further

"Resolved, that the Board of Trustees be requested to cooperate with the National Association of Dental Service Plans to the end that the formation of this needed agency, to serve as an adjunct to the dental service plan system, can be effected at the earliest possible date."

It is hoped that the proposed agency will play a role similar to that played by the wholly owned insurance companies established many years ago by the Blue Cross and Blue Shield systems — Health Service Inc. and Medical Indemnity of America respectively.

Service Corporations Cover 1.4 Million Americans

The US National Association of Dental Service Plans reports that as of December 31, 1968, the country's 23 active dental service corporations had 391 private group contracts covering 1,467,475 subscribers. Of these, 373 contracts, covering 1,449,613 were underwritten, and 18 contracts covering 17,862 were administered on a cost-plus basis. An additional 179 administrative contracts involving publicly funded programs covered 252,559 beneficiaries. The combined contracts in the private and public sectors totalled 570 with 1,720,034 persons affected, according to the NADSP.

Auto Workers and Machinists Negotiate Funds for Dental Care Programs

Representatives of the United Auto Workers and International Association of Machinists have reported that funds for the purchase of dental care benefits were obtained in the most recent round of labour-management negotiations in the aerospace industry. Carriers for the programs, which will go into effect in 1969 and 1970, have yet to be selected.

Eligible employees of North American-Rockwell Corporation, Boeing Corporation and the Curtiss-Wright Corporation will be recipients of the benefits.

Earlier this year, similar agreements for eligible employees of the McDonnell Douglas Corporation were announced.

Dental Program for Baseball Players

Major league baseball players will be covered by a dental care program, according to the *News Letter* of the American Dental Association. The dental program is one of seven benefits listed in an agreement reached last month between the Major League Players Association and the club owners. The latter agreed to make increased pension plan contributions which in turn will enable them to provide the players with improved health benefits. Canada's first entry into major league baseball, the Montreal Expos, made their debut April 8.

Research

Chewing Fluoride Tablets Aids Caries Reduction

P. F. DePaola of the Forsyth Dental Centre, Boston, and M. Lax, Medford, Massachusetts, have reported that chewing special fluoride tablets is effective against dental caries.

Grade 1-3 children in a Massachusetts community, where the water fluoride level is 0.07 ppm, were given identical cherry flavoured tablets each day they were in school for two years. One group of 130 received 2.2 mg. sodium fluoride along with 17 mg. sodium biphosphate and 25 mg. hexamic acid in each tablet, whereas another group of 136 in the same classes were given placebo tablets. The children were instructed to chew the tablets thoroughly, circulate the material around in the mouth, and then swallow it without water.

At the end of the experiment, those chewing the fluoride tablets had 20-23 per cent less decay in their permanent teeth than their counterparts. Among teeth which erupted after the treatment began, there were only half the number



The Montreal Dental Club honoured two prominent citizens of Pointe Claire, Quebec, on January 20. The suburban municipality, near Montreal, was the first to fluoridate its water in Quebec. Pictured, left to right, are Mayor Arthur Séguin, MLA, receiving a commemorative plaque from G. D. Armstrong, Montreal Dental Club past president, and Mr. George Asterman, editor of the Pointe Claire "News and Chronicle," who received a similar plaque from H. L. Mussells, MDC president.

of cavities. Doctors DePaola and Lax believe the benefit would have been greater if the treatment had started in nursery school or kindergarten.

They claim that their tablets combine the advantages of getting a beneficial amount of fluoride into the teeth before they erupt with the benefits of surface uptake of fluoride by the teeth after they erupt. At the same time the treatment covered only half the days of the year, was pleasant, quick and inexpensive. It required a minimum of supervision and practically no professional time.

Fluoridation

Montreal Club Honours Pointe Claire, First to Fluoridate in Quebec

Mayor Arthur Séguin of Pointe Claire was the guest of honour last January 20 when the Montreal Dental Club marked its 72nd annual meeting with a special

tribute to his city — the first to initiate water fluoridation in Quebec. Pointe Claire has fluoridated its water since February 1955.

The Montreal club conferred a plaque bearing a special citation on John Freedman, publisher of Pointe Claire's *News and Chronicle*, for his public-spirited support of fluoridation. The plaque was accepted by the newspaper's editor, George Asterman.

Awards and Honours

Ottawa dentist **Max Florence** was recently elected an honorary member of the Academy of Medicine of Ottawa in recognition of his work as chairman of the Ottawa Fluoridation Committee.

Deaths

Abrams, G. W. 70. California. North Pacific College, University of Oregon, 1925.

11-1-69. Survived by one brother and two sisters.
 Dinsmore, John W. 68. Port Washington, NY. McGill University. 15-11-68.
 Lafrenière, Paul. 60. Deschambault, Qué. Université de Montréal, 1937. 13-2-69. Survécu par Hélène (épouse); Mme Hilaire Rivard (fille); Wilfred (frère); et Mme Ernest Chartrand, Mme Pierre Gagnon; Mme Charles Haas et Mme

Lucien Jolicoeur (soeurs).
 Radway, Frank Saunders. 73. London, Ont. Royal College of Dental Surgeons of Ontario, 1924. 21-2-69. Survived by Mrs. R. S. Magee (sister).
 Smith, William Fraser. 86. Regina. Registered under provincial act, Saskatchewan, 1914. 24-1-69.
 Stodgell, Francis James. 63. Windsor, Ont. University of Toronto, 1929. 2-2-69.

in memoriam

Ernest A. Bell

E. A. Bell, a former president of the Maritime Dental Supply Company, died at his home in Halifax on December 25, 1968, following a year or more of failing health.

With the exception of the years 1914-18, when he served as an officer with the Canadian armed forces in various areas, Ernest Bell spent his entire adult life with the Maritime Dental Supply Company which had been founded by his father some time prior to 1900. During the years of his presidency he operated the business in a capable and fatherly manner, taking equal interest in the needs and welfare of his customers and his staff. He never failed to aid anyone who sought help and gave generously of his time and talents.

Because of his interests, Ernest Bell enjoyed a full life. From early boyhood until recent years he was a keen sailor of boats of all sizes and had an intimate knowledge of almost every boat which ever sailed in Halifax waters, be it large or small. He was a member of the Royal Halifax Yacht Club, the oldest yacht club in North America, and served as its commodore.

Ernest Bell was also a widely read man with a special interest in poetry. His knowledge of books and his ability to recount what he had read made him a delightful companion who will be missed but remembered by all who had the privilege of his friendship.

Mr. Bell is survived by a daughter, Mary, Mrs. Bell having predeceased her husband.

Howard Harris

George Harry Tobey

Dentists across Canada will mourn the loss of G. H. Tobey who died in Calgary on January 10 at the age of 59. Mr. Tobey was president of Caulk-Canada Limited.

Born in Picton, Ontario, Mr. Tobey worked briefly for a local bank after graduating from high school. In 1929 he joined the Dominion Dental Company where he quickly made his mark as assistant manager of the Windsor branch (1931) and the Kingston branch (1934). Shortly thereafter Mr. Tobey became a salesman of dental supplies in the Hamilton and London areas.

Entering the Canadian Dental Corps as a lieutenant in 1940, he served in turn at

Central Dental Stores, Ottawa, with No. 36 Dental Company in Toronto (1943), and in London, England (1944). After discharge from the Corps late in 1945, Mr. Tobey joined the L. D. Caulk Company of Canada as a sales representative. For many years he travelled in this capacity from coast to coast, meeting dentists in all parts of the nation. He was promoted to sales manager in 1957, managing director in 1962 and president in 1965.

Mr. Tobey was a member of Timothy Eaton Memorial Church, Toronto. He was also active on behalf of the Toronto Board of Trade and was an ardent supporter of the Canadian Fund for Dental Education. Surviving Mr. Tobey are his wife Helen, daughter Cathleen and grandson Robbie.

Hugh M. Eaton

Hugh MacDonald Eaton of Halifax died on January 12 at the age of 66. Born in Truro, Nova Scotia, in 1902, he graduated from Dalhousie University in 1927.

Dr. Eaton joined the teaching staff of Dalhousie University's Faculty of Dentistry in 1944 where he was professor of dental radiology. He represented the Nova Scotia Dental Association on the National Dental Examining Board of Canada and was chairman of its Board of Examiners. He was a past president of the Halifax Dental Society, the Nova Sco-

tia Dental Association and the National Dental Examining Board of Canada. He was also a former member of the Nova Scotia Dental Board and a fellow of the American College of Dentists.

Besides his wife, Irene, Dr. Eaton is survived by a son, Robert; a daughter, Mrs. Andrew Catellier; three brothers, Horace, Dr. George and Dr. Drummond; a sister, Mrs. W. H. MacNeily; and two granddaughters.

Wesley John Langmaid

A dentist in Oshawa for many years and active in many civic and church projects, Wesley J. Langmaid died on January 20 in his 69th year. Born in Darlington Township, Dr. Langmaid graduated from the Royal College of Dental Surgeons and was president-elect of the Canadian Dental Association, an honour he had to decline due to illness. He was a director of the Royal College of Dental Surgeons and a fellow of the American College of Dentists. Forced to retire in 1950 because of his illness, Dr. Langmaid returned to his practice in 1960 and was an active practitioner until November of last year. He is survived by his wife, Louise; three sons, Dr. Douglas and Dr. Ross, who are general practitioners, and Dr. Jack, who is an orthodontist; and nine grandchildren, all of Oshawa.

Canada's population clock shows the country touched the 21 million population mark March 8.

L'Association

Les délégués des membres corporatifs et le Conseil exécutif de l'ADC examinent des problèmes communs

La réunion à Toronto, les 24 et 25 février derniers, du Conseil exécutif de l'ADC et des délégués des dix membres corporatifs provinciaux de l'ADC a mené à une discussion des règlements de l'Association dentaire canadienne et à l'examen des buts et des objectifs de l'association nationale.

Parmi les sujets à l'examen devant l'assemblée il y avait: la juridiction des organisations dentaires nationales et provinciales; le statut, les droits et les devoirs des membres corporatifs; la composition, le pouvoir et les devoirs du Conseil des Gouverneurs et du Conseil exécutif; les devoirs des membres électifs et des administrateurs; et la composition et les devoirs des conseils, comités et sections de l'ADC.

Le Conseil exécutif a ensuite révisé, les 26-28 février, les avis rendus par la conférence. Le Conseil soumettra ces propositions ainsi que son propre point de vue au Conseil des Gouverneurs à Montréal les 7-9 juillet. On demandera aux membres du Conseil d'évaluer chaque recommandation et de fixer les principes qui devraient guider la révision ultérieure des règlements. Les amendements qu'il conviendra ensuite de faire seront rédigés et présentés à la réunion du Conseil des Gouverneurs en 1970.

Les représentants des membres corporatifs à la conférence sur les buts et les

objectifs étaient: R. A. Downton et K. F. Walsh, St. John's, Terre-Neuve; J. E. Merritt et C. E. Dexter, Halifax, Nouvelle-Ecosse; G. D. Barrett et C. D. Mollins, Charlottetown, Ile du Prince-Edouard; G. R. Rowe, Nashwaaksis, et D. E. Williams, Moncton, Nouveau-Brunswick; G. M. Dundass et R. M. Le Blanc, Montréal, Québec; Ivan Hrabowsky, St. Catharines, et K. F. Pownall, Toronto, Ontario; A. J. Shinoff, Winnipeg, et F. Ollinik, Morden, Manitoba; F. T. Wihak, Regina, et R. F. Smith, Saskatoon, Saskatchewan; L. G. Mandin, St. Paul, et G. E. Decker, Edmonton, Alberta; L. E. English, Kamloops, et W. R. Upton, Vancouver, Colombie britannique.

Le Conseil exécutif de l'ADC était représenté par: Henri Brouillet, président; H. R. MacLean, président désigné; W. P. Munsie, président sortant; G. M. Dewis, trésorier; A. L. MacIsaac, W. J. Spence, Louis Bernier et J. B. Taylor.

Les conseillers en relations publiques vont analyser les méthodes de communication de l'ADC

Une agence en relations publiques de Toronto a été invitée à examiner les activités de l'Association dentaire canadienne et de recommander des méthodes de communication plus efficaces entre chaque membre et l'association nationale.

Lors de sa réunion du 26-28 février, le Conseil exécutif a autorisé une étude préliminaire par Carleton, Cowan Public Relations qui aura pour but d'évaluer les services rendus par l'ADC à ses membres et de déterminer l'attitude des membres envers l'Association.

On estime, que les résultats de cette étude nous permettront de développer des moyens de communication plus efficaces à l'aide du son, des images et de l'imprimé.

Intention d'agrandir le Conseil de l'enseignement

Le Conseil de l'enseignement de l'ADC demandera au Conseil des Gouverneurs d'approuver la proposition de renouveler sa composition et d'élargir le nombre de

ses membres de six à neuf. Cette décision fait suite aux discussions préalables qui ont eu lieu entre les représentants du Conseil, de l'Association des facultés dentaires du Canada, du Bureau national d'examen dentaire du Canada et du Collège royal des Chirurgiens-Dentistes du Canada afin de décider comment mettre en liaison le savoir et l'expérience de ces quatre équipes. A sa réunion du 5 au 7 février, le Conseil a donc décidé:

Qu'à l'avenir les membres seront choisis parmi les noms soumis par l'AFDC, le BNED, le CRCD(C) et parmi les membres de l'ADC;

Que les nominations au Conseil tiennent compte des considérations géographiques et linguistiques; et

Que le Conseil soit composé de professeurs à plein temps et à temps partiel; d'administrateurs universitaires supérieurs; de dentistes qui ne sont pas directement engagés dans l'enseignement dentaire; de dentistes ou d'autres qui connaissent bien le travail de l'AFDC, du BNED, du CRCD(C) et de dentistes ou d'autres qui ont l'expérience et l'intérêt qui conviennent aux fonctions du Conseil de l'enseignement.

Le Conseil a voté de demander l'amendement des statuts de l'Association afin (1) "d'octroyer à l'AFDC, au BNED et au CRCD(C) le privilège de la participation d'un représentant de chaque groupe au Conseil de l'enseignement. Les représentants n'auront pas le droit de vote et il n'y aura aucune responsabilité financière de la part de l'ADC", et (2) d'autoriser le Conseil à "accréditer des programmes de chirurgie dentaire au niveau universitaire, post-gradué et gradué, ainsi que des programmes d'hygiène dentaire, et de réviser périodiquement leur approbation".

D'autres mesures ont également été prises dans lesquelles le Conseil est convenu:

Que le besoin d'un nombre limité de programmes qui mènent au grade d'hygiène dentaire au niveau universitaire existe;

Qu'il existe un besoin continu de programmes qui mènent au diplôme en hygiène dentaire au niveau universitaire; et

Que les programmes de diplômes en hygiène dentaire peuvent également être

développés dans des cadres non-universitaires à condition qu'ils se conforment au degré d'excellence établi par le Conseil.

Le Conseil de l'enseignement et le Conseil exécutif prennent des mesures sur l'homologation des internats et des auxiliaires

Lors de sa réunion du 5 au 7 février, le Conseil de l'enseignement de l'ADC a reçu deux résolutions de l'Association dentaire de l'Ontario qui portaient sur les services dentaires hospitaliers, les programmes d'internats ainsi que sur les cours d'instruction pour le personnel auxiliaire. Les résolutions demandaient que l'ADC (1) transmette aux bureaux provinciaux la responsabilité d'accréditer les services dentaires hospitaliers et les programmes d'internats, et (2) qu'elle reconnaisse que l'homologation des programmes à l'égard du personnel auxiliaire est une responsabilité provinciale.

Après mûre réflexion, le Conseil de l'enseignement a adopté les résolutions suivantes:

"Attendu que la ratification et/ou l'homologation, au niveau national, des installations et des programmes d'enseignement dentaire permettent la reconnaissance interprovinciale et internationale de ces installations et de ces programmes, et attendu que la ratification et/ou l'homologation de l'ADC n'empêche pas l'homologation au niveau provincial, il est donc résolu

"Que l'ADC continue à ratifier et/ou homologuer les installations et les programmes de l'enseignement dentaire et de la formation des auxiliaires dentaires"; et

"Que la continuation de la ratification des programmes d'internats hospitaliers soit sujette à une réévaluation au moins tous les cinq ans [et que] la responsabilité de renouveler la demande dépende de l'hôpital intéressé".

Lors de l'assemblée qui a eu lieu les 26-28 février derniers, le Conseil exécutif a partagé l'opinion du Conseil de l'enseignement et a voté de transmettre leurs résolutions au Conseil des Gouverneurs. Le sujet de ces résolutions fera également partie du rapport du Conseil exécutif au

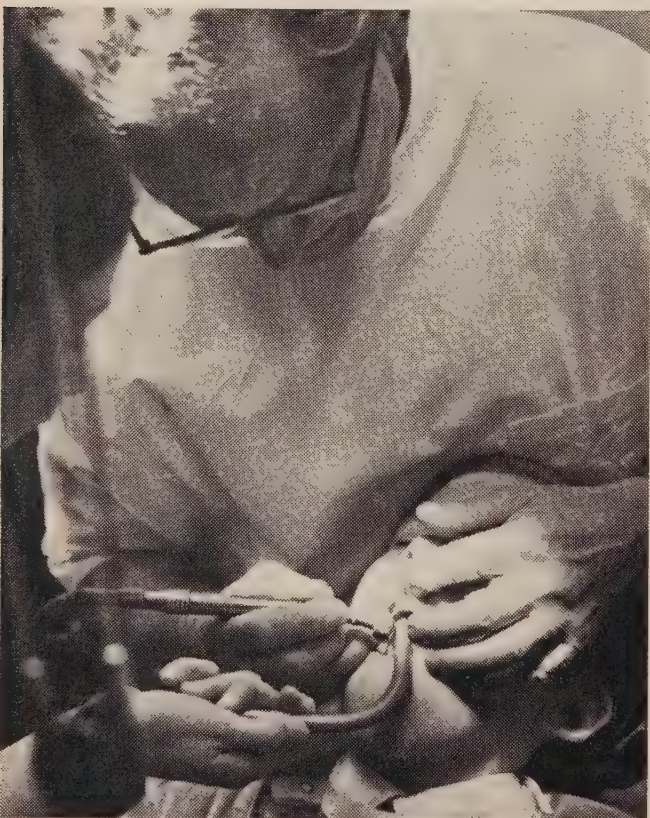
Conseil des Gouverneurs au sujet de la Conférence sur les buts et les objectifs de l'ADC du 24 et 25 février.

Le Canada

Le Dr Flanagan inaugure une nouvelle clinique dentaire à Montréal

Un dentiste de 72 ans, le docteur Cyril Flanagan, a organisé une clinique gratuite dans un quartier défavorisé de Montréal après avoir fourni sa propre installation dentaire et intéressé d'autres dentistes à l'appuyer.

Sans l'aide d'aucun gouvernement le Comité des citoyens de St-Jacques a réuni des médecins, des dentistes, des spécialistes, des techniciens de laboratoire, des avocats, des ouvriers en chômage, des secrétaires, des étudiants du CEGEP du Vieux Montréal, des malades, des mendiants, etc. qui travaillent ensemble afin d'améliorer le sort de 55,000 personnes qui résident dans un quartier pauvre du bas de la ville de Montréal. Ils ont dissipé la discrimination, les distinctions de classes et les problèmes de langues et créé une clinique médicale et dentaire



Le Dr C. Flanagan au travail

gratuite qui ouvre ses portes cinq soirs par semaine depuis le mois d'octobre 1968.

Il faut remarquer que 80 pour cent des citoyens du quartier sont de langue française et 75 pour cent du personnel professionnel est de langue anglaise ou des Néo-Canadiens.

Le Comité se prépare maintenant à créer une clinique juridique avec l'aide de 10 avocats, un atelier culturel et une troupe de théâtre.

L'Ecole de santé publique de l'Université de Montréal

Le Conseil de l'Université de Montréal a recommandé que le nom de l'Ecole d'hygiène soit changé en celui d'Ecole de la santé publique et qu'elle comprenne les cinq départements suivants: (1) épidémiologie et biostatistique, (2) hygiène de milieux, (3) administration de la santé, (4) nutrition, (5) microbiologie appliquée à la santé publique.

Jusqu'à tout récemment, l'Université de Montréal avait la seule école d'hygiène de langue française au monde et l'Organisation mondiale de la santé lui confia de nombreux travaux et subventionna la formation de nombreux Africains et Asiatiques d'expression française.

Le Dr Lizotte fait l'inventaire de l'assurance-maladie au Québec

C'est au cours d'une conférence présentée aux membres de la Société dentaire de Montréal que le docteur Laurent Lizotte, sous-ministre de la Santé, a fait l'inventaire de la position du gouvernement du Québec envers l'assurance-maladie. Il a rappelé les paroles de M. Daniel Johnson selon lesquelles "le Québec a l'intention d'établir un programme québécois d'assurance-maladie mais il le fera quand il le voudra et comme il le pourra".

Le gouvernement étudie présentement un régime de prestations pharmaceutiques qui s'ajoutera à l'assistance-médicale pour les soins médicaux dont bénéficient les assistés sociaux.

Bien que la Commission d'assistance-médicale est d'avis que les chirurgiens

buccaux méritent d'être rémunérés pour les actes qu'ils posent dans les hôpitaux de la même façon qu'un chirurgien général, il appartient au gouvernement d'amender la loi de l'assistance-médicale afin de permettre ces prestations.

Le sous-ministre a aussi indiqué que le gouvernement du Québec n'a encore pris aucune décision en vue d'exécuter les recommandations de la Commission Castonguay qui préconise les soins dentaires pour les enfants et les femmes enceintes. Il a rappelé que le ministre de la Santé, Monsieur Jean-Paul Cloutier s'est toujours prononcé en faveur d'un plan d'assurance-maladie ayant comme critère l'universalité, mais l'universalité atteinte par étapes.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association dentaire canadienne étaient les suivantes au 28 février: fonds d'obligations gouvernementales \$13.761; fonds d'obligations corporatives \$14.944; fonds d'actions ordinaires \$25.705. L'avoir total (valeur marchande) du régime se montait à \$8,842,-234.76.

Au cours du mois précédent, les transactions, achats et ventes, d'actions ordinaires ont été les suivantes: achat 2,500 actions de Equity Funding Corp. of America; et 2,000 actions de Kaiser Steel; vente 1,000 actions de McDonald's Corporation; 2,500 actions de Harvey Aluminum; 1,000 actions de Holiday Inns; et 1,500 actions de Loew's Theatres.

Pour de plus amples renseignements, veuillez écrire à: The Administrator of CDA-sponsored Pension and Insurance Plans, Professional and Industrial Pensions Ltd., 2249 Yonge St., Toronto 7, Ont.

Chronique Internationale

Ves Journées internationales du Film dentaire

Les V^{es} Journées internationales du Film dentaire organisées sous l'égide de la

Confédération nationale des Syndicats dentaires se dérouleront dans le cadre de la Semaine odontologique internationale à Paris du 26 mai au 1er juin 1970.

Le concours présentera des films 16 mm sonores (magnétiques ou optiques) noirs ou en couleur, traitant des différentes disciplines dentaires.

Le jury sera présidé par le Professeur agrégé Lucien Lebourg et attribuera de nombreux prix.

Pour tous renseignements, inscriptions ou correspondance, s'adresser à: M. Roger Bermond, secrétaire général — 22, avenue de Villiers, 75 — Paris 17^{ème}, France.

Les organisations dentaires

Le Dr Reid fait l'esquisse de la nouvelle organisation dentaire proposée en Colombie britannique

J. F. Reid, le président de l'Association dentaire de la Colombie britannique, a rendu public de plus amples détails sur une nouvelle organisation des dentistes de la CB. La Fédération dentaire de la Colombie britannique remplacera le Collège des Chirurgiens-Dentistes de la CB et l'Association dentaire de la CB.

Le Dr Reid a écrit dans le numéro du mois de février du *BCDA News Bulletin* que "tous les dentistes autorisés à exercer en Colombie britannique feront partie de la nouvelle organisation. Un homme en sera à la tête et il y aura une ligne directe d'autorité du haut en bas. Il y aura trois divisions principales: une division des affaires professionnelles, avec des responsabilités parallèles à celles qu'a présentement le Collège; une division des affaires publiques qui remplira les fonctions de l'ADCB; et une division des affaires qui aura la tâche d'administrer l'organisation. Toutes les sociétés constituantes seront représentées par un gouverneur au Bureau de direction; les autres membres seront élus par la profession".

Un comité comprenant les présidents de l'ADCB et du Collège et les avocats du Collège, espèrent accomplir le changement le plus rapidement possible.

Les orthodontistes du Québec élisent le Dr Wechsler

Le docteur M. H. Wechsler de Montréal a été élu récemment président de l'Association des orthodontistes de la province de Québec. Il a succédé à R. W. Faith, également de Montréal. Les autres membres du bureau de l'Association sont J. R. Nadeau, vice-président, et H. L. Levitt, secrétaire, tous deux de Montréal; J. E. Lemay, de Sherbrooke, trésorier; et C. Vachon, de Montréal, membre actif sans portefeuille.

Les facultés dentaires canadiennes

Une conférence a examiné le rôle des hôpitaux dans l'enseignement dentaire

La conférence sur le rôle des hôpitaux dans l'enseignement dentaire qui s'est tenue les 27 et 28 janvier, a recommandé l'établissement d'un département dentaire dans chaque hôpital d'enseignement et a préconisé la représentation du personnel dentaire auprès des comités consultatifs de l'hôpital. Cette conférence qui avait été organisée par le Conseil de l'enseignement de l'ADC et qui s'est tenue aux bureaux du secrétariat de l'ADC a attiré des représentants de chaque faculté dentaire canadienne.

Les participants sont d'avis que les programmes gradués devraient être administrés par une faculté des études graduées, mais que le développement, l'enseignement et le personnel devraient provenir de la faculté de chirurgie dentaire. L'instruction qui mène au diplôme au niveau gradué devrait être orientée vers le développement des professeurs. L'hôpital d'enseignement devrait être considéré comme l'extension des installations cliniques de la faculté. L'hôpital devrait avoir un service dentaire sanctionné par le Comité des services hospitaliers de l'ADC.

La conférence a recommandé une amélioration des moyens de communication entre les professions médicale et dentaire. Elle a aussi suggéré que l'ADC repose sa candidature afin de siéger au Con-

seil Canadien d'homologation des hôpitaux. Parmi d'autres recommandations on notait: un appui financier plus efficace pour "les soins complets du patient" à l'intérieur de l'hôpital d'enseignement; les étudiants universitaires devraient acquérir de l'expérience à l'hôpital; et de plus amples installations pour l'instruction des internes dentaires. La conférence a encouragé les hôpitaux d'enseignement à donner leur appui et à favoriser la recherche au sein de l'hôpital par tous les départements de la faculté de chirurgie dentaire.

L'économie

Le quatrième relevé sur l'économie de l'exercice dentaire commence en avril

C'est au mois d'avril que le Bureau des recherches économiques de l'ADC enverra à tous les dentistes canadiens un questionnaire relatif au quatrième relevé sur l'économie de l'exercice dentaire. D'autres relevés ont déjà eu lieu en 1954, 1959 et 1964. Ces relevés fournissent à l'Association les renseignements que peuvent requérir les gouvernements, le public et les membres de notre profession. Le relevé étudie certaines questions, comme par exemple "Quel est le pourcentage du revenu brut du dentiste consacré aux dépenses? Quelle comparaison y a-t-il entre les revenus ruraux et urbains? Gagne-t-on moins quand on est plus âgé? Quel est le revenu moyen net du dentiste par heure?". Vos réponses resteront absolument confidentielles et anonymes.

Réduction temporaire des prestations du régime d'assistance en Ontario

Le Régime d'assistance dentaire de l'Ontario a été obligé de réduire temporairement les prestations versées pour les soins dentaires aux bénéficiaires de l'assistance publique. Les comptes pour les soins rendus avant le 18 février et présentés avant le 1^{er} mars ont été entièrement payés à condition qu'ils ne dépassaient pas 90 pour cent du tarif des honoraires de l'Associa-

tion dentaire de l'Ontario. A l'heure actuelle les comptes pour les soins rendus depuis le 18 février sont entièrement réglés à condition qu'ils ne dépassent pas 70 pour cent du tarif.

Selon un mémorandum de l'Association dentaire de l'Ontario, l'inclusion de nouveaux bénéficiaires et d'un barème plus élevé a rendu ce changement nécessaire. Le Régime d'assistance dentaire de l'Ontario est un programme d'assistance administré par l'Association dentaire de l'Ontario.

Sept équipes d'étude scruteront le coût des soins de santé

Ottawa vient de nommer les présidents qui guideront les sept équipes d'étude chargées d'examiner le coût actuel des services de santé au Canada. Elles étudieront le coût dans trois domaines; les services d'hospitalisation, les soins médicaux et les services d'hygiène publique. Deux équipes seront affectées au domaine des soins médicaux. En plus d'analyser le prix et la distribution des soins médicaux, elles seront également tenues d'examiner le rôle du personnel auxiliaire et professionnel des services de santé connexes.

Les équipes d'étude rendront compte de leurs conclusions à un comité fédéral-provincial qui a été chargé d'étudier la hausse du coût des services de santé au Canada. Le comité a été établi à la suite de la conférence fédérale-provinciale des ministres de la santé qui s'est tenue à Ottawa au mois de novembre dernier.

Nouveaux règlements administratifs et médicaux pour les hôpitaux du Québec

Le ministre provincial de la santé, M. Jean-Paul Cloutier, a déposé devant l'Assemblée nationale, le 5 mars dernier, le cahier des règlements administratifs et médicaux sur les articles 20 et 30 de la loi des hôpitaux.

Un nouveau règlement décrète "qu'aucun lit ne doit être attribué à un médecin en particulier. Cependant, le conseil d'administration peut réserver un certain

nombre de lits à un service ou à un département donné comprenant plus de deux médecins".

Dorénavant aucune forme d'honoraire "ne peut être demandée par quiconque, directement ou indirectement, pour les services professionnels rendus par les résidents et les internes dans l'exercice de leurs fonctions hospitalières".

Les règlements auront tendance à obliger les hôpitaux à accepter les médecins désireux de faire partie du conseil médical.

Le Collège des médecins pourra évaluer la qualité du travail professionnel d'un ou des membres du bureau médical et de s'assurer que le public reçoit des soins médicaux appropriés.

La qualité de l'acte médical sera assurée par le truchement des comités, et le médecin qui, sans raison valable, n'assiste pas aux réunions du conseil médical s'expose à perdre ses droits et privilèges.

L'ADA recommande la formation d'une agence de souscription indépendante pour les régimes de services dentaires

L'Association dentaire américaine a officiellement reconnu le besoin de former une agence de souscription indépendante qui aiderait les régimes de services dentaires qui fonctionnent aux Etats-Unis. Ce nouvel objectif est incorporé dans la résolution suivante adoptée par la Chambre des Délégués de l'ADA le 31 octobre dernier:

"Il est résolu que l'Association dentaire américaine reconnaît le besoin critique d'établir une agence nationale sous la forme d'une compagnie d'assurance dont les régimes de services dentaires ainsi que d'autres secteurs sans but lucratif de la profession seraient les propriétaires. Cette agence garantirait les programmes d'assurance-groupe pour les soins dentaires dans les états où les corporations de services dentaires n'existent pas ou bien quand elles sont incapables de générer le capital nécessaire à la souscription par leurs propres moyens, et en outre

"Il est résolu que le Conseil d'administration soit prié de coopérer avec l'Association nationale des Régimes de Ser-

vices dentaires afin de former dans le plus bref délai cette agence dont il y a grand besoin et qui assistera les organismes des régimes de services dentaires."

On espère que l'agence en question remplira la même fonction que celle que remplissent depuis quelques années les compagnies d'assurance qui appartiennent à la Croix Bleue et au Blue Shield: Health Service Inc. et Medical Indemnity of America respectivement.

Les corporations de services dentaires assurent 1.4 million d'Américains

L'Association nationale des Régimes de Services dentaires des Etats-Unis rapporte qu'à compter du 31 décembre 1968, les 23 corporations de services dentaires qui fonctionnent dans ce pays détiennent 391 contrats avec des groupes privés qui protègent 1,467,475 assurés. Trois cent soixante-treize de ces contrats qui assurent 1,449,613 personnes sont souscrits et 18 contrats avec 17,862 assurés sont administrés en calculant le coût plus un certain taux de profit. En outre, 179 contrats administratifs qui comportent des programmes établis avec des fonds publics comprennent 252,559 bénéficiaires. Le total des contrats dans les secteurs privés et publics est de 570 et atteint 1,720,034 personnes selon l'ANRSD.

Les Travailleurs de l'automobile et les Machinistes négocient les fonds pour des régimes de soins dentaires

Les représentants des Travailleurs unis de l'automobile et de l'Association internationale des machinistes ont rapporté qu'ils ont obtenu des fonds pour l'acquisition de prestations dentaires durant les négociations qui ont eu lieu récemment entre les syndicats et les administrateurs de l'industrie aéronautique. On n'a pas encore choisi les assureurs de ces régimes qui doivent entrer en vigueur en 1969 et 1970.

Les employés de North American-Rockwell Corporation, Boeing Corporation et de Curtiss-Wright Corporation qui qualifient seront les bénéficiaires.

Plus tôt cette année, on avait annoncé le même genre de contrat pour les employés de McDonnell Douglas Corporation.

La recherche

La mastication de tablettes de fluorure aide à réduire la carie

P. F. DePaola du Forsyth Dental Centre à Boston, et M. Lax, de Medford au Massachusetts, ont rapporté que la mastication de tablettes spéciales de fluorure produit son effet contre la carie dentaire.

Chaque jour de classe pendant deux ans, les enfants de la 1^{ère} à la 3^e année d'une localité au Massachusetts où le niveau de fluor de l'eau est de 0.07 ppm ont reçu des tablettes identiques au goût de cerise. Un groupe de 130 élèves recevait 2.2 mg. de fluorure de sodium avec 17 mg. de biphosphate de sodium et 25 mg. d'acide hexamique dans chaque tablette, alors qu'un autre groupe de 136 élèves des mêmes classes recevait des tablettes contenant un placebo. On a demandé aux enfants de mâcher complètement les tablettes, de faire circuler cette substance dans la bouche, et puis de l'avaler sans eau.

A la fin de l'expérience, les dents permanentes de ceux qui avaient mâché les tablettes de fluorure avaient de 20 à 30 pour cent de moins de carie que celles des autres élèves. Les dents qui avaient fait éruption après le commencement du traitement avaient seulement la moitié du nombre de cavités. Les docteurs DePaola et Lax croient que les résultats auraient été meilleurs si le traitement avait commencé à l'école maternelle ou au jardin d'enfants.

Ils prétendent que leurs tablettes favorisent l'introduction d'une quantité utile de fluor dans les dents avant leur éruption, avantage auquel s'allie l'absorption du fluor par la surface des dents après l'éruption. Le traitement a pris seulement la moitié des jours de l'année; il a été agréable, rapide et bon marché. Le programme a exigé un minimum de surveillance et de temps du personnel professionnel.

La fluoration

Le Montreal Dental Club honore Pointe Claire, la première ville au Québec à fluorer l'eau potable

Le maire Arthur Séguin de Pointe Claire était l'invité d'honneur du Montreal Dental Club lors de la 72^e réunion annuelle qui rendait hommage à sa ville, la première au Québec à prendre l'initiative de fluorer le service des eaux. Pointe Claire fluore l'eau potable depuis le mois de février 1955.

Le Montreal Dental Club a accordé une plaque avec inscription spéciale à M. John Freedman, l'éditeur du *News and Chronicle* de Pointe Claire, rappelant sa dévotion au bien public et son appui de la fluoration. La plaque a été acceptée par le directeur du journal, M. George Asterman.

L'Organisation mondiale de la santé appuie la fluoration

Un haut fonctionnaire de l'OMS a réaffirmé l'appui de l'Organisation à l'égard de la fluoration. Cette déclaration tient à répondre à un adversaire canadien de la fluoration qui maintenait que celle-ci n'avait pas été sanctionnée par l'OMS. On s'en est référé par conséquent à Vladimir Rudko, directeur du département d'hygiène dentaire de l'OMS.

Dans sa réponse, le Dr Rudko démontre que cet adversaire a joué sur un détail technique concernant le mot "sanctionner" parce que les sujets de ce genre ne sont normalement pas discutés par l'Assemblée mondiale de la santé de l'OMS mais sont traités par les sections techniques, les comités et les experts.

En 1968 les experts en hygiène dentaire de l'OMS précisaient leur attitude à

l'égard de la fluoration. Une nouvelle étude sur les fluorures et la santé de l'homme sera publiée par l'OMS en mi-1969.

Le Dr Rudko a déclaré que l'OMS offre son concours à tous les pays qui sollicitent l'assistance technique afin d'établir un système de fluoration de l'eau. Le Comité d'hygiène dentaire de l'OMS coopère étroitement avec la Fédération dentaire internationale pour compiler et distribuer les renseignements qui contribueront à l'avancement de la fluoration.

Un rapport de la Tasmanie justifie la fluoration

La fluoration en Australie a trouvé l'appui du Rapport de la Commission royale d'enquête sur la fluoration en Tasmanie qui a été publié à la fin de l'année dernière. Les administrateurs de l'Association dentaire australienne ont déclaré que ce rapport vient clairement à l'appui de la base scientifique de la fluoration. Le rapport a analysé une vaste gamme d'idées opposantes y compris celles de Sir Arthur Amies et P. R. N. Sutton et a décidé que le bien-fondé de leurs objections ne pouvait pas être établi ou qu'elles ignoraient toute l'accumulation des connaissances modernes. C'est une décision importante parce que les deux adversaires australiens de la fluoration ont été fréquemment cités en Amérique du Nord.

Distinction honorifique

Le Dr Laurent Deslauriers de St-Hyacinthe a été élu directeur au Conseil de l'aviation du Québec. Le Conseil a comme but principal le développement économique du Québec par l'aviation.

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a difference



Wining and dining



MONTREAL IS THE SCENE OF THE CDA CONVENTION JULY 9-11

Different because it is more bilingual than any other North American city of similar size, Montreal, after Paris, is the world's second largest French-speaking city. And Montreal, site of the 1969 CDA national convention, has many other cosmopolitan features which make it attractive to the visitor, so much so that it was selected as the location of the spectacular Expo 67.

Above the very heart of the city's commercial district towers 764 ft. Mount Royal, a favourite summer and winter tourist attraction. In 1535, Jacques Cartier, the first European visitor to these parts, was taken to the mountain's verdant summit by hospitable Indians. Today a convenient lookout and a handsome chalet supply amenities from which visitors may follow Cartier's example. But the present-day skyline is dotted with 600 ft. buildings, sprawling industries and homes that stretch away in every direction.

In 1611 Samuel de Champlain established the first fur trading post on the site of today's Montreal. Little did he know that this venture would blossom into one of the world's strategic transportation centres. Some 900 miles from the Atlantic Ocean, Montreal is now the largest inland seaport in the world.

Paul de Chomedey, Sieur de Maisonneuve, founded the first permanent settlement in 1642. It was from this pioneer outpost that most of the early adventurers set out to explore the interior of the continent. Some 35 of the 50 American states were discovered by Montrealers of French descent, and there are some 4,000 place names related to their exploration.

The present city stands on an anvil shaped island roughly 32 miles long and 10 miles wide. Its population exceeds two million; about two-thirds are of French origin and 20 per cent are of British stock.

The city's special appeal stems from its essentially French atmosphere. Its newsstands carry more French publications than English; indeed, the French language predominates throughout.



Notre-Dame de Bonsecours



Sherbrooke Street West

Montreal's cultural activities are also largely French. There are about a dozen good professional theatrical companies. A few, including the Théâtre du Nouveau Monde and the Théâtre du Rideau Vert, operate the year around. Of special interest are the numerous night clubs and intimate 'boîtes' where French Canadian balladeers and folk singers entertain. Topping the annual series of events are the various performances of Montreal's Summer Festival, including professional theatre, opera, symphony, concerts 'under the stars' atop Mount Royal, parades, art exhibits, a film festival, and jazz concerts that stretch from late June to early September.

For the inner man, the city's countless fine restaurants have made Montreal the gastronomic capital of America. In fact, many connoisseurs claim that Montreal offers a better choice of restaurants, at lower prices, than any other city on the continent. And while French cuisine predominates, there are dozens of excellent restaurants that cater to those who prefer the specialties from more than a dozen European and other countries.

Montreal possesses a magnificent concert centre — Place des Arts — a large complex comprising a concert hall, a theatre and a recital hall. Rated one of the finest in the world, its acoustically perfect Salle Wilfrid Pelletier is the permanent home of the Montreal Symphony Orchestra and provides a haven for the world's best known travelling musical companies.

The Museum of Fine Arts has an excellent collection of paintings and sculptures ranging from old masters and oriental art to the best of modern Canadian creations. There are several other interesting historical museums. The largest of these is the Château de Ramezay dating back to 1705. This historic building, once the residence of a former French governor, Claude de Ramezay, has even sheltered leaders of the American Congress, such as Benjamin Franklin.

Montreal is also a city of churches. Among those deserving a visit is Notre-Dame. Built in 1823, its interior is noted for its delicately crafted woodwork. St. Joseph's Oratory, a shrine which draws some three million pilgrims annually, stands as a monument to Brother André, 'the miracle man of Mount Royal.' Tiny Notre-Dame de Bonsecours, the 'sailors'



church' on the waterfront, is Montreal's oldest. Mary Queen of the World Cathedral is a half size replica of St. Peters in Rome.

Visitors should not miss the section known as "Vieux Montréal" where some of the buildings are between 200 and 250 years old. Here are the houses of early explorers and fur traders, including John Jacob Astor.

A startling contrast is provided by Place Ville-Marie in the heart of the city. Its cruciform complex, with more office space than the Empire State Building in New York, is capped by an observation tower, as is the nearby Canadian Imperial Bank of Commerce Building — the tallest in the Commonwealth.

St. Helen's Island, site of 'Man and His World,' is the home of the Free Company of Marines. Dressed in French military uniforms of the 1700's, this group performs manoeuvres in front of an old fort

which dates back to 1824. The island also boasts two interesting military museums, fine playgrounds, one of the best city-operated restaurants and large swimming pools.

At Lafontaine Park visitors may enjoy the Garden of Wonders — a children's zoo in fairyland and nursery rhyme settings. The park also has an open-air theatre where light opera is performed every evening in the summer. Other attractions in the park are lagoons with Mississippi-style pleasure boats, canoes, and miniature trains to delight the small fry.

The easiest, quickest way to see Montreal is to take one of the many guided tours that show off the best of the city and its surrounding area. For those interested in making longer visits at their leisure, many of the points of interest either are within walking distance of downtown Montreal or are easily accessible by public transportation.

Oral cancer incidence and mortality in Canada and abroad

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The male sex continues to predominate in Canada's oral cancer incidence and mortality rates. Interprovincially, tongue cancer displays parallel variations of incidence and buccal pharyngeal mortality, but the corresponding variations of lip cancer incidence and buccal pharyngeal mortality are dissimilar. Provinces with elevated lip cancer incidence have a low tongue cancer incidence, while those with elevated tongue cancer incidence have a low lip cancer incidence. Cancer of the floor of the mouth and tongue is becoming slightly more prevalent, but male mortality from buccal pharyngeal cancer is decreasing in all provinces except Newfoundland. Mortality from buccal pharyngeal cancer has also dropped in most Anglo-Saxon countries but the reverse is true in western European Latin countries. Though Quebec and France both have very high male mortality rates and high male:female mortality ratios, male mortality is dropping in Quebec but climbing in France.

Le sexe masculin prédomine encore les taux d'incidence du cancer de la cavité buccale et de mortalité au Canada. Entre les provinces le cancer de la langue révèle des variations analogues d'incidence et de mortalité bucco-pharyngienne, mais les variations correspondantes d'incidence du cancer de la lèvre et de mortalité bucco-pharyngienne sont différentes. Les provinces qui ont un pourcentage élevé du cancer de la lèvre démontrent un faible pourcentage du cancer de la langue, tandis que celles qui ont un taux élevé du cancer de la langue démontrent un faible taux du cancer de la lèvre. Le cancer du plancher de la bouche et de la langue est en train de devenir un peu plus répandu, mais la mortalité masculine due au cancer bucco-pharyngien diminue dans toutes les provinces à l'exception de Terre-Neuve. La mortalité causée par le cancer bucco-pharyngien a aussi baissé dans la plupart des pays anglo-saxons mais l'inverse existe dans les pays latins de l'Europe occidentale. Quoique le Québec et la France ont tous les deux des taux de mortalité masculine très élevés, et des proportions de mortalité masculine:féminine élevées, la mortalité masculine est en train de baisser au Québec mais augmente encore en France.

Last year I reported the incidence of oral cancer in four provinces of central and western Canada.¹ Incidence rates have since been obtained from the other six provinces, along with figures for a further year from Quebec, Ontario and Manitoba. These data are now divided by sex and extended to include the oropharynx.

The earlier report compared new cases of intra-oral cancer registered at Ontario Cancer Clinics during 1962-66 and 1933-52. Further comparisons of oral site rates during the last 25 years now are made for six Canadian provinces, two states and a protectorate of the USA, and three Scandinavian countries.

Male and female buccal pharyngeal cancer mortality during similar periods within the last 15 to 20 years is also compared in all Canadian provinces and 23 other countries.

FINDINGS

Incidence of oral cancer expressed as the number of new cases per year per million is listed in Table 1 for the provinces of Canada.²⁻¹¹ The rates for Ontario are based on the number of new cases registered at Ontario Cancer Foundation Clinics and Clinic Hospitals and are lower than the actual incidence.¹² The Quebec rates for floor of mouth, other mouth, and oropharyngeal cancer were calculated from the sex distribution for lesions of the floor and other mouth combined, and total pharynx.

Table 1 shows that oral cancer predominates in men and that its incidence varies widely among the provinces.

Ten to 80 times more men than women have lip cancer; one to five times more men have tongue cancer; two to eight times more men have cancer of the floor of the mouth; one to four times more men have cancer at other intra-oral sites; and one to 12 times more men have oropharyngeal cancer. Only in the salivary glands is the sex-related incidence similar in most provinces.

Male lip cancer incidence varies greatly in the different provinces. The rates are very high in Prince Edward Island, New-

foundland, Saskatchewan and New Brunswick, and comparatively low in Nova Scotia and Quebec. Tongue and total intra-oral male incidence, on the other hand, is high in Quebec, Nova Scotia and Ontario, and low in Saskatchewan and Prince Edward Island. Salivary gland cancer in both sexes is particularly high in Manitoba.

Male and female incidence data were obtained from Newfoundland² 1960-64 and 1965-67; New Brunswick⁵ 1962-64 and 1965-67; Quebec⁶ 1962-64 and 1965-66; Ontario^{7,13,14} 1933-52, 1962-64 and 1965-67; Manitoba⁸ 1958-60, 1961-63 and 1964-66; Alberta¹⁰ 1960-64 and 1965-67; Connecticut¹⁵⁻¹⁷ 1945-49, 1950-54, 1955-59 and 1960-64; New York State excluding New York City¹⁸ 1949-51, 1959-61 and 1963-65; Puerto Rico¹⁹ 1950-54, 1955-59 and 1960-64; Norway^{20,21} 1953-55, 1956-58 and 1959-61; Denmark²²⁻²⁴ 1943-47, 1948-52 and 1953-57; and Finland^{25,26} 1953-57 and 1958-60. The data are presented in Table 2. They display no marked changes in incidence but there is a slight upward trend in the incidence of cancer of the floor of the mouth and tongue.

Male buccal and pharyngeal cancer mortality, on the other hand, declined in every province except Newfoundland during the same period.²⁷ Female mortality was unchanged except in Newfoundland where it increased (Table 3). As with incidence, mortality is much higher in men, and the rates vary considerably among the provinces. Male mortality is very high in Quebec, high in Newfoundland, and low in Manitoba, Saskatchewan, Alberta, British Columbia and Prince Edward Island.

A comparison of the buccal pharyngeal cancer mortality rates of different countries²⁸ again reveals male predominance and wide disparity between countries. France has a very high male rate. Switzerland, South Africa, Ireland and Italy are also high, whereas the Netherlands, West Germany, Israel, Denmark, Sweden, Norway, Austria and New Zealand are comparatively low.

Male mortality has declined in recent years in Ireland, Northern Ireland, Scotland, England and Wales, Australia, New Zealand, Finland, Austria, the Nether-

TABLE 1 Incidence of oral cancer.

		n/million/year									
		Male					Female				
Years		Lip	Tongue	Floor	Other mouth	Oral pharynx	Salivary glands	Lip	Tongue	Floor	Other mouth
1960-67	Newfoundland ²	204	10	3	19	0	10(a)	6	6	1	5
1961-67	Prince Edward Island ³	233	5	11	13			3	5	3	11
1964-66	Nova Scotia ⁴	97	20	8	28	5	5(b)	6	8	1	10
1964-67	New Brunswick ⁵	175	9	12	14	2	12(c)	10	8	3	4
1962-66	Quebec ⁶	75	24	10	19	14	15	8	5	2	4
1962-67	Ontario ⁷		17	10	16	12(e)	7(d)		7	2	8
1960-66	Manitoba ⁸	130	12	5	17	6	21	12	7	3	7
1961-65	Saskatchewan ⁹	209	7	3	12	3	8	8	7	1	5
1960-67	Alberta ¹⁰	143	10	6	9	4	6	11	4	2	4
1963-65	British Columbia ¹¹										
				Buccal cavity 157						Buccal cavity 48	

(a) 1960-62 (b) 1965 (c) 1962-64 (d) 1966-67 (e) 1967

lands, as well as in Canada. Female rates have changed very little in most countries; so have male rates in Sweden, Norway, Denmark, West Germany, Switzerland and US Caucasians. However, male mortality from buccal pharyngeal cancer has shot up in France, Italy, Belgium, Portugal, South Africa and US non-whites, as has mortality in both sexes in Israel.

DISCUSSION

Incidence rates for all 10 provinces are again consistent with those reported last year.¹ Oral cancer, except for salivary gland lesions, again predominates in men. Its incidence varies widely from province to province and at different oral sites in the various provinces. Provinces with a high male lip cancer incidence tend to have a low tongue cancer incidence; conversely, those with a high tongue cancer incidence tend to have a low incidence of lip cancer. As reported last year,¹ elevated lip cancer rates are characteristic of provinces where rural residents predominate.²⁹

Floor and tongue cancer has risen slightly in the past 20 years. In contrast, mortality from buccal pharyngeal cancer has declined in men and remained unaltered in women everywhere except in Newfoundland. Mortality, like incidence, varies widely in the different provinces. The disparity in male mortality parallels the variation in male tongue and intra-oral cancer incidence, but differs from the variation in male lip cancer incidence. This likely reflects the difference in survival rates between cancer of the lip and intra-oral sites, because five year survival from the former is at least twice that of the latter.³⁰

Male mortality rates and mortality sex ratios for buccal pharyngeal cancer also vary in different countries.²⁸ Recent mortality rates for men have been high in France, Quebec, Newfoundland, Italy, Ireland, Switzerland and South Africa, and low in Israel, the Netherlands and West Germany. Perhaps this reflects ethnic or religious traits. Male buccal pharyngeal mortality has decreased in countries of predominantly Anglo-Saxon

TABLE 2 Oral cancer incidence trends.

Period 19— to 19—	n/million/year																			
	Lip					Tongue					Floor					Other mouth				
	45	50	55	60	65	45	50	55	60	65	45	50	55	60	65	45	50	55	60	65
Male	49	54	59	64	67	49	54	59	64	67	49	54	59	64	67	49	54	59	64	67
Newfoundland				208	189				9	11				2	3				20	16
New Brunswick*				194	169				8	9									35	25
Quebec*				74	76				25	22									28	31
Ontario									15	18	6			10	9	26			15	15
Manitoba									6	18				5	6			15	13	20
Alberta			99	134	125			11	10	10				6	7			15	12	6
Connecticut				36					42		16			21		23			26	
New York State*	55	46	43	31		31	36	35	24					19		31		23	32	
Puerto Rico	59	10	34	14		29	32	43	54		11	17		9		21		31	33	
Norway		50	52	49			9	10	11		6	6				10		24	8	
Denmark*	58	62	59			6	8	9								9		11		
Finland*		75	82				7	9								9		8		
Female																				
Newfoundland				6	7				6	6				1	0				6	4
New Brunswick*				5	11				9	7									8	6
Quebec*				7	9				5	5									7	6
Ontario									6	8	1			2	2	5			8	8
Manitoba									4	8				3	3			4	7	6
Alberta				15	11				5	4				2	3				4	3
Connecticut			9	3					9					2	6				10	
New York State*	3	3	4	3		7	8	8	9		2			2	3	7	9	8	11	
Puerto Rico	4	6	3	4		7	13	14	9		3			6	7	17		14	16	
Norway		3	2	2			10	5	7		4			4		5		5	5	
Denmark*	5	4	6			8	7	5								6		4	7	
Finland*		5	7				6	7										6		

*Other mouth includes floor.

TABLE 3 Age-adjusted mortality from cancer of the buccal cavity and pharynx.

Period 19— to 19—	n/million/year											
	45	50	55	60		50	54	60		50	54	60
	49	54	59	63		53	59	63		53	59	63
Male												
Newfoundland		56	55	56	US Caucasian	46	47	45	Netherlands	21	18	17
Prince Edward Island	51	31	56	25	Ireland	85	74	56	West Germany	17	16	17
Nova Scotia	60	56	44	37	Northern Ireland	59	48	37	Austria	36	30	28
New Brunswick	59	53	36	39	Scotland	65	56	41	Switzerland	65	64	63
Quebec	104	86	84	80	England & Wales	54	45	34	Italy	49	51	54
Ontario	53	45	44	42	Australia	44	37	32	France	53	69	84
Manitoba	30	31	23	25	New Zealand	38	35	29	Belgium		26	30
Saskatchewan	36	21	23	22	Finland	39	39	33	Portugal		43	47
Alberta	32	23	24	21	Sweden	21	22	23	South Africa	43	54	62
British Columbia	40	36	25	21	Norway	32	31	28	US Non-white	40	46	48
Canada	59	49	47	44	Denmark	23	23	22	Israel	15	14	19
Female												
Newfoundland		13	15	22	US Caucasian	11	12	12	Netherlands	9	8	8
Prince Edward Island	3	21	12	20	Ireland	23	23	19	West Germany	6	6	6
Nova Scotia	16	9	11	12	Northern Ireland	22	22	20	Austria	10	9	8
New Brunswick	18	11	13	10	Scotland	18	20	19	Switzerland	13	10	9
Quebec	17	15	13	15	England & Wales	17	17	15	Italy	9	9	10
Ontario	11	13	13	13	Australia	12	11	11	France	6	7	7
Manitoba	10	10	7	10	New Zealand	14	15	15	Belgium		7	9
Saskatchewan	11	11	10	8	Finland	17	16	14	Portugal		10	12
Alberta	9	10	8	9	Sweden	19	16	16	South Africa	9	11	12
British Columbia	14	13	11	13	Norway	14	15	13	US Non-white	14	14	15
Canada	13	13	13	13	Denmark	14	10	10	Israel	5	7	10

origin, remained unchanged in most Scandinavian and central European countries, and increased in western European countries of Latin origin.

Variations according to religious faith were observed in two studies in New York City.^{31,32} In both studies there were significantly more Roman Catholics and significantly fewer Jews among patients

with cancer of the mouth and pharynx than in age-matched control groups.

Quebec is 88 per cent Roman Catholic and 80 per cent French in origin. Both Quebec and France have very high male mortality rates and male to female mortality ratios for buccal pharyngeal cancer. Male mortality has, however, declined in Quebec and risen in France.

SUMMARY

Recent oral cancer incidence rates for all the provinces of Canada are reported. Male incidence and mortality predominates throughout the land but varies appreciably in different provinces and countries. There are similar interprovincial incidence and mortality variations in the case of tongue cancer but not in the case of lip cancer. There is an inverse relationship between the provincial male incidence rates for cancer of the lip and tongue. Cancer of the floor of the mouth and tongue has increased slightly. Male mortality from buccal pharyngeal cancer is down in all provinces except Newfoundland. Male buccal pharyngeal mortality has declined in Anglo-Saxon countries, remained unchanged in Scandinavian and central European countries, and increased in western European Latin countries. Female mortality rates have not changed. Both Quebec and France have very high male mortality rates and high male:female mortality ratios, but the male mortality rate has decreased in Quebec and increased in France.

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The Canadian Dental Hygienists Association has a new mailing address. Effective April 1, correspondence may be addressed to Miss J. Downton, Secretary, Canadian Dental Hygienists Association, 234 St. George Street, Toronto 5, Ontario.

Review of paedodontics: 1967-68

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The years 1967-68 brought numerous publications relating to paedodontics. Findings related to preventive paedodontics, examination and oral diagnosis, periodontic disease, habits, development of occlusion, child management, operative dentistry and hospital paedodontics are enumerated to help the practitioner select, modify and improve his treatment of patients on a scientific basis.

Les années 1967-68 ont apporté de nombreuses publications qui se rapportent à la pédodontie. Les résultats de l'examen des articles relatifs à la pédodontie préventive, à l'examen et au diagnostic buccal, aux maladies périodontiques, aux habitudes, au développement de l'occlusion, au comportement à l'égard des enfants, à la dentisterie opératoire et à la pédodontie à l'hôpital sont énumérés afin d'aider le praticien à choisir, modifier et perfectionner un traitement qui sera basé sur un fondement scientifique.

This review of paedodontics covers significant papers published in 1967 and 1968. The subject is miscellaneous, and I have doubtless missed papers. I have included only those papers which present information or conclusions that can be applied by the practising dentist. This review may stimulate interest and serve as a reference source for readers who wish to explore specific areas of the subject.

PREVENTIVE PAEDODONTICS

Nutrition.—Nizel¹ termed prevention the cornerstone of any healing profession. He contended that up to 50 per cent of dental caries can be prevented by nutritional counselling. He outlined his method of counselling and reviewed the systemic and local effects of foods and elements on the teeth. Patient acceptance, said Nizel¹ and Berman,² depends on understanding the 'why' as well as the 'what' of nutrition counselling.

Fluorides.—Torell and Ericsson³ claimed that 2 per cent sodium fluoride has the greatest anticariogenic potential. They also advocated a daily supplementary rinse with 0.05 per cent stannous fluoride and fluoride preparations for polishing teeth. Gron and Brudevold⁴ agreed that

supervised brushing with fluoride dentifrices produces a modest but significant caries reduction. They found sodium fluoride as effective in a dentifrice as stannous fluoride. Cartwright et al⁵ considered acidulated fluoride phosphate superior to stannous fluoride for topical application. Their sample was small, however, and their study only lasted for two years.

Englander et al⁶ tested two different water soluble fluoride gels in custom fitted maxillary and mandibular polyvinyl applicators. Five hundred school children applied the gels daily under supervision. Teeth exposed to acidulated fluoride phosphate gel absorbed more fluoride than teeth treated with plain sodium fluoride gel. This technique can be used in large groups of children under supervision.

An excellent in vitro study by Mellberg et al⁷ showed increased fluoride uptake when a barrier coating is applied to the enamel after fluoride treatment. Hennon et al⁸ discussed a fluoride-vitamin supplement that reduced new caries by 68 per cent in deciduous teeth and by 41 per cent in permanent teeth.

Ericsson⁹ pointed out that mechanically fluoridated water used by over 100 million people has never caused a single case of health damage. Terhune and Muhler¹⁰ warned that fluoridation can make dentists complacent. Practitioners, they said, must integrate preventive procedures with a communal fluoridation program.

Horowitz and Heifetz¹¹ found the caries inhibiting effect of four minute topical applications of stannous fluoride superior to 30 second applications of stannous fluoride in children whose teeth had matured with fluoridated water.

EXAMINATION AND ORAL DIAGNOSIS

Radiography.—MacRae et al¹² considered eight film radiographic surveys preferable to three film surveys for detecting congenital anomalies in the mixed dentition. Nanda et al¹³ stressed that cephalometric radiographs should also be scrutinized for dental anomalies. Rosenberg¹⁴ described diagnostic laminagraphy; this specialized technique minimizes superimposition of tissue structures. Gravely and Har-

greaves¹⁵ found the folded occlusal film easy to use in children; it reduces radiation and gives a fair view of the whole arch.

Staining.—Tetracycline staining was described by Bennett and Law.¹⁶ They observed that dentine absorbs nine times as much tetracycline as calcifying enamel. Weyman¹⁷ also reported on the absorption of tetracycline by enamel.

Cysts and Tumours.—Kracke¹⁸ published an excellent summary of the pathological conditions encountered in the mouth. Hooley et al¹⁹ included a differential diagnosis of cysts of dental interest in their case report of a sublingual dermoid cyst in a five month old infant. Fromm²⁰ observed inclusion cysts (Epstein's pearls) in 75 per cent of 1,367 new-born infants. These superficial lesions range from small clusters, about ½mm. in diameter, to larger cysts. They often disappear spontaneously within a few weeks.

Mallon et al²¹ described an ameloblastic adenomatoid tumour in the mandible of a 16 year old boy. The lesion was initially treated as a large dentigerous cyst. Jones and Whitlock²² reported an intra-oral carcinoma in a child. They stressed the importance of careful diagnosis to differentiate ameloblastoma from carcinoma. Seward and Duckworth²³ reviewed calcifying odontogenic cysts and tumours. These authors presented a good description of adenoameloblastoma, calcifying odontogenic epithelial tumours and calcifying odontogenic cysts.

Adatia²⁴ discussed Burkitt's tumour. This multifocal lesion predominates in children aged 3-8. It causes premature loosening of deciduous teeth when it appears in the mouth.

Sarcomas in children and adolescents were reported by Snyder and Marks²⁵ who described a primary osteogenic sarcoma of the femur metastasizing to the mandible. Another article by Roca et al²⁶ documented six cases of Ewing's sarcoma in the maxilla and four in the mandible.

Other Pathoses.—Premature shedding of deciduous teeth may reflect an underlying systemic problem such as histiocyto-

sis X.^{27,28} Eosinophilic granuloma, Hand-Schuller-Christian disease and Letterer-Siwe disease²⁹ are variants of this single entity. Letterer-Siwe disease progresses rapidly and is usually fatal, whereas the other variants have a more favourable prognosis. Oral lesions are usually evident and tooth mobility is almost consistent in histiocytosis X. Papillon-Lefevre syndrome may also cause a premature shedding of teeth.^{30,31} Incontinentia pigmenti, another rare disease, can manifest by delayed tooth eruption, pegged teeth, missing teeth and malformed teeth.³² The final diagnosis therefore rests on biopsy.

There were a dozen or more accounts of other unusual conditions. Elzay and Robinson³³ wrote about dentinal dysplasia (rootless teeth). Garner³⁴ reported that seven year cephalometric analysis in a patient with Berry-Treacher-Collins syndrome revealed progressive obtusiveness of the facial profile resulting from abnormal mandibular growth. Tillman³⁵ reported three other cases of this syndrome and Pielou and Allen³⁶ described the construction of an obturator for children affected with this disease. Barabas and Barabas³⁷ described Ehlers-Danlos syndrome, a collagen defect. Dental nerve blocks should therefore be avoided because of possible injury to fragile blood vessels; sutures should be reinforced with adhesive tape; scaling should be conservative because the gingiva splits easily; and a soft toothbrush should be used.

Winter and Geddes³⁸ outlined oral and dental changes associated with Ellis-Van Creveld syndrome (chondroectodermal dysplasia). Nally³⁹ associated Marfan's syndrome with osteogenesis and dentinogenesis imperfecta. Smith⁴⁰ described the two patterns of osteopetrosis (Albers-Schonberg disease, marble bone). He outlined the dental manifestations of enamel hypocalcification and hypoplasia, delayed eruption and abnormal root formation and noted a predisposition to osteomyelitis following tooth extraction in these cases.

Mongolism, though commoner than some of the preceding conditions, was well illustrated in an article by Spitzer.⁴¹ His evidence supports the view that changes noted in these patients are congenital and possibly genetic in origin.

Enamel Lesions.—Wei⁴² reviewed the remineralization of carious enamel. Coughlin⁴³ showed that human first deciduous molars calcify earlier than is commonly thought. Soni et al⁴⁴ reported a histological study of six natal teeth obtained from infants. The teeth were loose and heredity was not an aetiological factor.

Naujoks et al⁴⁵ measured the phosphorus and nitrogen content of powdered deciduous tooth enamel. The cervical enamel was less well mineralized and had more structural alterations than other enamel. This may explain the frequency of cervical caries in deciduous teeth.

PERIODONTIC DISEASE

Ritsert and Binns⁴⁶ showed that the electrically-powered toothbrush removes plaque more effectively than a manually operated brush. Toto et al⁴⁷ claimed that children who were instructed to brush their teeth brushed much better than those without instruction. They found the electric toothbrush only slightly superior to the manual toothbrush. This observation was supported by Williford et al⁴⁸ who also reported improved oral hygiene, debris index, periodontic index and dental I.Q. in dental students after they received oral hygiene instruction. Gertenrich and Lewis⁴⁹ recommended the electric toothbrush for retarded and handicapped patients.

Stallard⁵⁰ stressed that prevention is the only completely successful treatment for periodontic disease. Lost tissue cannot be completely restored once the disease has progressed beyond simple gingivitis, he said.

Molle,⁵¹ discussing canker sores, showed that an enzyme product derived from a mutant strain of *B. subtilis* is more than twice as effective as cortisone and silver nitrate in affording almost immediate pain relief and shortening the healing time to less than three days.

Some examples of local soft tissue reaction were reported by Edlan⁵² and Cripps.⁵³ The first article described a method of deepening the vestibule in patients where a high fan-like origin of the mentalis muscle or a high attachment of the labial fraenum may eventually

strip the gingiva from the lower incisors. The second article discussed periodontic diseases and restorative dentistry. Cripps said that faulty restorations are more prone to initiate periodontic disease than is generally appreciated; even the best restorations introduce a foreign substance into a natural setting and thereby induce potential tissue irritation and infection.

Hereditary gingival fibromatosis was the subject of an article by Becker et al.⁵⁴ This condition appears with the emergence of the permanent dentition and fades as the teeth are gradually lost. Gingivectomy or gingivoplasty is the customary treatment. Microscopic findings usually show an inflammatory response and a marked increase of collagen fibres.

Cantor⁵⁵ compared propoxyphene (Darvon) and oxycodone compound (Perco-gesic) for relief of pain after a gingivectomy. He favoured oxycodone but found little difference between the two drugs.

HABITS

Haryett et al⁵⁶ found a palatal crib with spurs effective for arresting chronic thumbsucking. They concur with learning theorists who regard thumbsucking as an acquired habit which can be safely extinguished in older children. They disagree with psychoanalytic theory which views the habit as symptomatic of a deeper emotional disturbance. Davidson et al⁵⁷ echoed these views. They found that persistent thumbsuckers do not exhibit any more personality abnormalities than normal children. These authors used palatal cribs without spurs to arrest the habit in 65 children. Half of the children were also given psychological support. None of these developed substitute habits.

Hanna⁵⁸ concluded that the development of oral habits is unrelated to breast or bottle feeding.

Bowden⁵⁹ associated persistent digit sucking with a higher incidence of skeletal Class II dental base relationships, tongue thrust activities, lip tongue resting positions and open bite tendencies. Interestingly, the incidence of crossbites was similar in children who engaged in dummy or digit sucking and those who did not.

Kroll and Stone⁶⁰ concluded that nocturnal bottle feeding contributes to rampant dental caries in infants and young children fed with milk, milk formulae and sweetening agents. Unfortunately, they did not segregate these agents.

Localized juvenile periodontitis was described in a patient who irritated the gingiva with his fingernails to cause maximum gingival recession. The condition subsided when the habit was stopped.⁶¹

DEVELOPMENT OF OCCLUSION

Information published in orthodontic journals is often vitally important to general practitioners and paedodontists who are responsible for the initial assessment and interceptive or corrective treatment. This opinion is fortified by Proffit and Bennett's⁶² article on serial extraction. Tulley⁶³ likewise stressed that general practitioners should be cognizant of the nature and course of orthodontic problems and should determine the malocclusions they can treat. Kohn⁶⁴ discussed the possibilities of a combined paedodontic-orthodontic practice and commented on orthodontic training that may be added to a paedodontic program.

Reitan⁶⁵ reviewed the clinical and histological changes associated with tooth movement during and after orthodontic treatment.

Biggerstaff⁶⁶ described the various theories of growth and development of facial and oral structures following conception. He discussed antero-posterior, lateral and vertical growth, and commented on the aetiology of anterior movement of the dentition. This author ascribes anterior crowding to intrinsic (endogenous or hereditary) and extrinsic (exogenous or environmental) factors. A completely 'normal' occlusion is rare, according to Biggerstaff, because man is such a heterogeneous being.

Higley⁶⁷ attributed mandibular incisor jumbling to small maxillary incisors, excessive vertical overlap, oversized mandibular incisors, environmental influence on mandibular basal bone growth and early loss of deciduous teeth.

Davey⁶⁸ proved that leeway, cusp height and age of premature tooth loss influence the mesial migration of maxillary first permanent molars. Mesial migration was also examined by Pulver⁶⁹ who commented on ectopic eruption of the maxillary first permanent molar. Several factors contribute to this anomaly. They include tooth size/jaw size disharmony in the maxilla, posterior positioning of the maxilla in relation to cranial base, abnormal angulation of the erupted first permanent molar and delayed calcification of affected first permanent molars. This condition occurs in about 3 per cent of all children. Though ectopic eruption is associated with the mesial movement of first permanent molars, these teeth can also move back to permit normal eruption of impacted bicuspids.⁷⁰ 'Peak impaction' occurs at 10 years, 4 months, and the mean age for correction is 11 years, 10 months. Therefore, extraction of bicuspids to make room in the arch should not be contemplated before the child is at least 11 years, 10 months of age.

Higley and Marks⁷¹ commented on proper cusp-groove relationship of erupted first permanent molars. If the mandibular second deciduous molar is shed before the maxillary second deciduous molar, one must seek the most satisfactory occlusion of the first permanent molars.

The prediction of tooth size could aid in determining potential malocclusions. Accordingly, Lewis and Grainger⁷² tried to relate tooth measurements of parents and children but found the correlations too low for accurate prediction of a child's permanent tooth size. Their results, however, lend support to the theory of sex-linked inheritance of human tooth size.

Weyman⁷³ discussed the treatment of midline diastema exceeding 1 mm. This defect tends to close when permanent lateral incisors and cuspids erupt and should not be treated before age 14 unless other pathological complications are evident. Surgical removal of an enlarged superior labial fraenum to aid space closure in very young children is only rarely justified.^{74,75}

Bodenham⁷⁶ recommended that supernumerary teeth be treated as near to their normal eruption time as possible. Early

removal of these teeth may damage the developing roots of adjacent teeth. Coronal exposure, where practical, should coincide with removal of the supernumerary tooth. This author advised against traction lest this provoke pulpal necrosis.

CHILD MANAGEMENT

Croxton⁷⁷ advocated a firm approach to child management. His patients were handled in a routine practice after having been referred as 'management problems.' Routine procedures were adopted, parents were excluded from the operating room, and each child was subjected to an atmosphere of constant discipline. Reasonable but firm behaviour limits were set for the children. The author observed that management problems frequently stem from permissive parents or the parents' presence in the operating room. Children reared by permissive parents develop respect for an authoritative person. Croxton discounts speculations that children receive 'psychic trauma' from dental experiences.

Lenchner⁷⁸ claims that the length of an appointment does not significantly affect a child's behaviour and attitude toward dentistry. He contends that the extent of past dental and medical treatment has very little influence upon the child's reaction during or after long or short appointments. Extensive treatment, says Lenchner, does not necessarily imply traumatic treatment, and therefore need not justify the resort to general anaesthesia.

Krakowski⁷⁹ points out that a professional relationship between the dentist and the patient depends not only on the dentist's skill and his understanding of the child, but also on the quality of his emotional adjustment. The doctor-patient relationship breaks down if the child provokes a conscious or unconscious negative response in the dentist.

Rosenzweig et al⁸⁰ reported an interesting, but inconclusive, questionnaire study on children's attitudes toward dentists and dentistry. A similar study by Klein⁸¹ tested the effects of dental treatment on different age groups after a specified time lapse between treatment and investigation. The attitudes of the younger children

were determined by drawings; those of older children were evaluated on the basis of an essay. Most nursery school children displayed a defensive attitude and the peak period for fear, according to this author, was between the ages 3-5. Shapiro⁸² used children's drawings to assess their reactions to oral surgery. The results of this subjective study rest solely on interpretation by psychiatrists; there was no statistical analysis. The author concluded that office oral surgery does not provoke as much psychological trauma as is commonly assumed.

Premedication with chloral hydrate and promethazine for apprehensive children was described by Robbins.⁸³ He favoured these agents because, in his opinion, they require "relatively little special training or equipment." Nevertheless, most authorities agree that it is best to avoid premedication in children unless the dentist is thoroughly familiar with these drugs.

Howitt⁸⁴ termed audioanalgesia a technique which is only partially successful. Schmidt,⁸⁵ on the other hand, favoured jet injection anaesthesia.

OPERATIVE DENTISTRY

Going et al⁸⁶ found that rubber dam is neglected in general practice but used extensively in endodontic treatment. Hamilton and Kramer⁸⁷ reported that prolonged dehydration makes dry cavity preparation more injurious to the pulp than wet preparation. Though neither of these articles pertain solely to children, it appears that the use of rubber dam and wet cavity preparation is superior for everyone.

Preformed stainless steel crowns, though often misused, are effective for restoring badly broken down teeth. Kopel and Beaver,⁸⁸ in a discussion of restorative procedures for anterior deciduous teeth, reported a veneered crown made from a preformed crown and an acrylic veneer. Mink and Bennett⁸⁹ outlined the one-appointment technique for stainless steel crowns. They advocated 69L or 169L carbide burs for the complete preparation, the new contoured stainless steel crowns, and selected pliers including a special crown crimping pliers.

Amalgam onlays were discussed by Watson.⁹⁰ His pin-reinforced amalgam can be used until the patient is ready for full gold crown coverage.

Sayegh and Reed⁹¹ confirmed previous opinions that calcium hydroxide induces a wider pulp repair response with less chronic inflammation than does zinc oxide-eugenol. The desirable properties of calcium hydroxide were also mentioned by Michanowicz and Michanowicz.⁹² They described the filling of an incompletely formed root canal where calcium hydroxide is initially deposited at the apex of the canal. McKnight⁹³ reported that zinc oxide-eugenol is highly bactericidal when specific organisms are introduced into dogs' root canals but only 17-25 per cent bactericidal under ordinary clinical circumstances.

Current opinion seemed to favour the formocresol pulpotomy technique utilizing 'Buckley's' formocresol mixture. Redig⁹⁴ found that a formocresol pulpotomy performed in one appointment was as effective as the two appointment technique. This treatment was successful in 85 per cent of teeth with no history of pain, no putrescent odour, normal mobility, and with at least two-thirds of the root intact.

Phaneuf et al⁹⁵ tested the effects of three calcium hydroxide preparations following pulpotomy in human deciduous teeth. They favoured a paste of 8.7 per cent calcium hydroxide in aqueous methyl cellulose (Pulpdent). Calcium hydroxide pulpotomies were successful when sterile conditions and an exacting technique were observed. The authors added that the formation of a dentine bridge over the pulp was unimportant.

Bodenham⁹⁶ claimed good results in six patients who had vital pulpotomies performed eight years previously on traumatized teeth.

There has been a great deal of concern over possible damage to successional teeth following injury or infection of deciduous teeth. McCormick and Filostrat⁹⁷ studied 452 children who sustained injuries to the deciduous dentition. A quarter of these children had damaged permanent tooth enamel. The authors also observed crowding and tooth rotation followed dental infection. These phenomena were commoner in the lower jaw, possibly because gravity

may spread the infection. Two other studies^{98,99} also showed that dogs' and monkeys' infected primary teeth can also damage immature permanent successors. These findings suggest that all traumatized and infected deciduous teeth are potentially harmful to the developing permanent dentition.

Fractured deciduous incisors may be treated in various ways. Kopel and Beaver⁸⁸ advocated a preformed stainless steel crown with a veneered facing as previously described. Schmidt¹⁰⁰ recommended a stainless steel crown with an acrylic seat for badly mutilated deciduous incisors. He uses the contoured steel crown as a tray for a preliminary impression; the crown is then returned to the laboratory for removal of the labial surface and processing of the acrylic seat. Starkey¹⁰¹ preferred conventional autopolymerizing resin for young fractured permanent anterior teeth. He discussed vitality tests and noted that teeth do not respond to electrical stimulation immediately after injury. A negative response to heat is indicative of pulp necrosis. A healthy tooth responds to cold stimuli, but the pain recedes immediately.

A simple technique for splinting displaced anterior teeth was described by Humphrey¹⁰² who suggested a fixed splint of anterior crowns, bands and wire. This method is less serviceable, however, than an immediately fabricated acrylic splint.

HOSPITAL PAEDODONTICS

Winter¹⁰³ delineated the relationship between a dentist and a paediatrician and showed how paediatric services contribute to preventive dentistry for children.

General anaesthesia is the most obvious, though not necessarily the most important, reason for hospital dentistry. Most authorities would agree with Tocchini et al¹⁰⁴ that general anaesthesia should be administered in a hospital. They cited the advantages of endotracheal anaesthesia. Its disadvantages are principally mechanical and can be minimized by a well qualified anaesthetist. Tocchini emphasized that modern anaesthesia, though quite safe, is still a major procedure which

should not be used as a crutch for the patient or the dentist.

Rehabilitation under general anaesthesia with extensive use of rubber dam was described by Allen and Sim.¹⁰⁵ They alluded to the danger of surgical emphysema. Barber et al¹⁰⁶ and Segal and Norton¹⁰⁷ consider this a rare complication.

Young and Shannon¹⁰⁸ showed how administrative and financial problems of providing dental treatment for handicapped children, including necessary hospitalization, can be solved.

Fishman et al¹⁰⁹ reported that many hospitalized cerebral palsy patients have worse oral hygiene than normal children, yet do not experience more tooth decay. Doykos et al¹¹⁰ showed that unsupervised use of an electric toothbrush can improve oral hygiene in handicapped children.

Though seldom attempted, orthodontic treatment can accomplish much in retarded children, according to Jackson.¹¹¹

Steinberg and Zimmerman¹¹² surveyed the incidence of dental caries in persons with various mental disorders. Thirty-nine per cent of mentally defective patients (with conditions caused by prenatal influences) were caries-free, whereas only 15 per cent of mentally retarded individuals (familial classification) were caries-free. The subjects' average age was 16.6 years.

Children suffering from various blood dyscrasias also require hospital care. Sinclair¹¹³ made some interesting observations about blood loss following the removal of teeth in normal and haemophilic patients. He reported that well controlled haemophiliacs tend to lose less blood than normal patients. The potential hazard of giving a local anaesthetic injection to a haemophiliac was emphasized by Bridge's¹¹⁴ report of a 33 year old man who bled into the soft tissues from the level of the clavicle to the temporal region after extraction of a maxillary first permanent molar. Bleeding commenced after the pterygoid plexus of veins was punctured during a local injection. Garvey et al¹¹⁵ described the experimental use of glycerine precipitated antihæmophilic factor in surgery for a haemophilic patient. This could be useful in the future, but the question of serum hepatitis remains unsolved. Giordano et al¹¹⁶ reported

on long-term aminocaproic acid prophylaxis in three haemophiliacs requiring extractions. Haemophiliacs can be treated as out-patients provided they receive adequate coverage with this drug, packing of the alveolar socket and protection of the extraction site.

Two recent articles dealt with thalassaemia, a rare blood dyscrasia. Parkin¹¹⁷ outlined various aspects of this condition and the dental treatment for affected children. Poyton and Davey¹¹⁸ documented a radiographic study of the dental and cranial abnormalities in 17 children suffering from thalassaemia.

Four cases of idiopathic thrombocytopenic purpura were reported by Griffith¹¹⁹ who stated that any patient complaining of bleeding or bruising should have a physical and haematological examination. He added that hospitalization is preferable if immediate dental treatment is needed. If treatment can be delayed, however, it is advisable to wait until the disease is in remission and the platelet count is elevated.

Children suffering from congenital heart disease are often seen in hospital dental clinics. Linde et al¹²⁰ reported that growth is retarded in all children with cardiac disease, the retardation being more pronounced in those with cyanosis. Weight retardation is more frequent and more marked than height retardation and boys are more severely affected than girls.

Tahl and Colwell¹²¹ reiterated that all diabetic patients are prone to periodontic disease and tooth loss due to increased susceptibility to infection. Oral surgery for these patients should be performed in a hospital.

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The author expresses appreciation to all staff members of the Department of Dentistry of The Hospital for Sick Children who helped gather the material for this article.

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Oral and skull manifestations of Paget's disease

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Typical clinical and radiographic features of Paget's disease are described. A dentist may be the first to detect this chronic deforming inflammatory condition which affects the long bones, pelvis, skull and jaws, and manifests most commonly in later life. The disease must be differentiated from hyperparathyroidism, fibrous dysplasia and periapical osteofibrosis.

Cet article décrit les caractéristiques cliniques et radiographiques de la maladie de Paget. Il est possible que ce soit le dentiste qui soit le premier à découvrir cette maladie inflammatoire chronique et déformante qui affecte les os longs, le bassin, le crâne et la mâchoire et qui se manifeste généralement chez les personnes âgées. Il faut distinguer cette maladie de l'hyperparathyroïdisme, de la dysplasie fibreuse et de l'ostéo-fibrose périapicale.

Paget's disease or osteitis deformans is a chronic deforming inflammatory condition of bone most commonly observed in the long bones, pelvis, skull and jaws. Paget's disease manifests itself most frequently in the fifth, sixth and seventh decades of life. The disease takes its name from Sir James Paget, an English surgeon who first accurately described the condition. The aetiology is unknown. There is no specific treatment. Paget's disease of bone must be differentiated from Paget's disease of the breast which is an inflammatory cancerous affection of the areola and nipple.

In the early stages of the disease the bone loses some of its rigidity, becoming soft, allowing the weight bearing bones to become bowed to such a degree that some patients are said to walk or waddle 'like a bear.' As the lesion progresses the calvarium of the skull becomes enlarged (Figure 1). Frequently a 'hat rim mark' is evidenced on the forehead.

Advanced cases of Paget's disease display a predominance of osteosclerosis, obliteration of the maxillary sinuses, and hypercementosis of many teeth associated with absence of the lamina dura. The maxilla has a tendency to enlarge more

than the mandible. Consequent spacing and separation of the maxillary teeth may cause them to protrude over the mandibular teeth like the 'lid of a box' (Figure 2). Increasing osteosclerosis may also lead to compression of sensory nerves. This induces facial neuralgia and may cause blindness and deafness.

Elevation of the serum alkaline phosphatase is a consistent laboratory finding. Serum calcium and phosphorus values are generally normal.

RADIOGRAPHIC FEATURES

The radiographic appearance in Paget's disease varies greatly depending on the stage at which the lesion is observed. In the early resorptive stage the lesion manifests as radiolucent areas with an altered trabecular pattern which assumes a fine lace-like appearance. This radiolucence is marked in the periapical regions and often presents the appearance of pseudocysts on the roots of the teeth. Loss of the lamina dura about the teeth and variable amounts of root resorption are common. In the more advanced stages the affected bone shows alternating areas of osteoporosis and excessive osteosclerosis. This is due to differences in the ratio of osteoblastic to osteoclastic activity, bone ap-

position exceeding resorption as the disease progresses.

DIFFERENTIAL DIAGNOSIS

Paget's disease and hyperparathyroidism involving the jaw bones tend to involve all of the maxilla or mandible, whereas fibrous dysplasia¹ and periapical osteofibrosis² are generally localized to a portion of either of these bones.

The incidence of jaw involvement is relatively high in Paget's disease (approximately 20 per cent of cases), the maxilla being more frequently affected than the mandible. Rarely are both jaw bones affected in the same patient. On occasion the maxillary manifestation of bone change is the first evidence of the disease. The dentist may be the first one to have the opportunity to spot the disease, either in the skull (Figures 2 and 3) or in periapical radiographs (Figures 4-8).

Paget's disease does not seem to affect tooth structure other than cementum. With increased osteoblastic activity there is frequently a deposition of poorly differentiated cementum on the roots of some of the maxillary teeth. This hyperplastic cementum is peculiar to Paget's disease and, when present, is of diagnostic value (Figure 5). It also serves to dif-

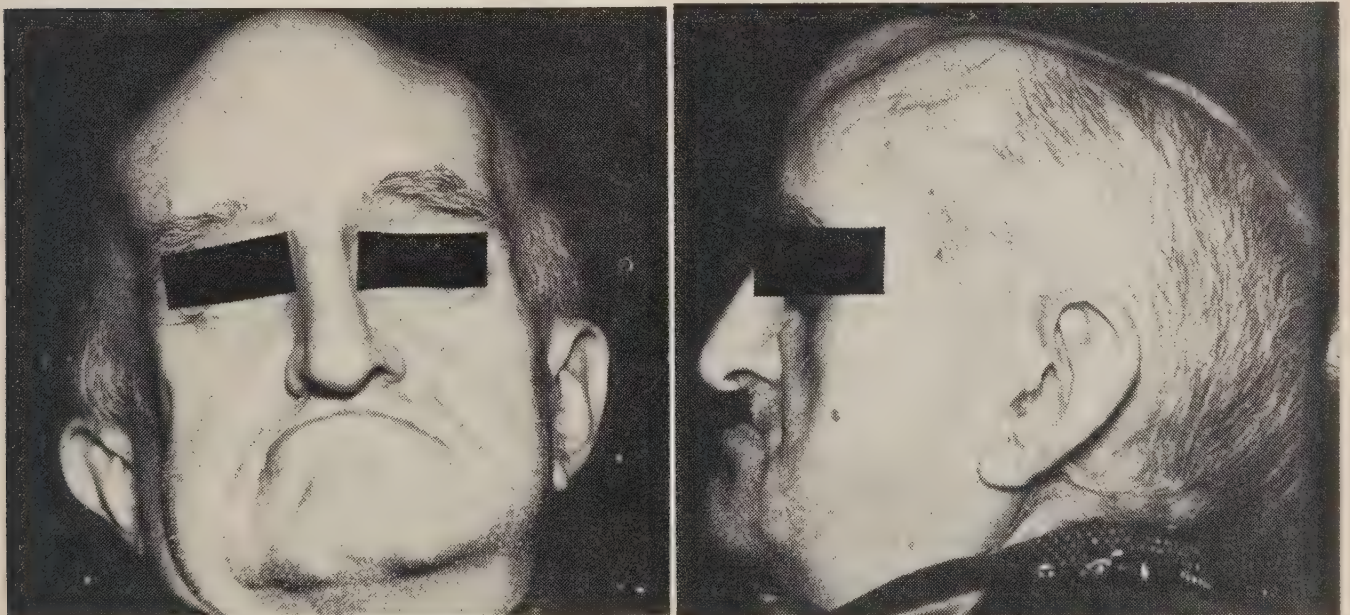


FIGURE 1 Patient with Paget's disease. Note thickening of the calvarium (left) and increased anteroposterior dimension of the skull (right).

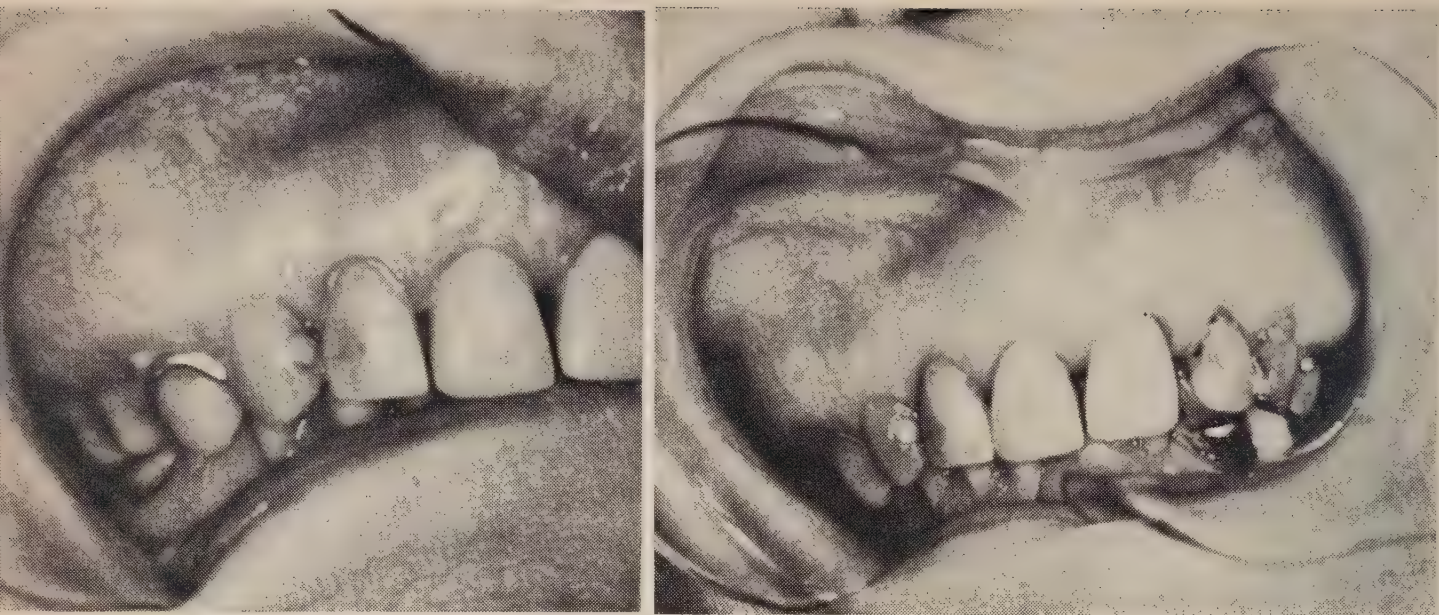


FIGURE 2 Expansion of the maxilla in Paget's disease accentuates the overlap and protrusion of the maxillary teeth.

ferentiate the disease from fibrous dysplasia and other osseous lesions which may involve the maxilla and mandible.

Fibrous dysplasia and periapical osteofibrosis may occasionally resemble Paget's disease in radiographic appearance. However, the former is generally more prevalent in the first three decades of life. In periapical osteofibrosis, the bone is most commonly affected in the middle span. Paget's disease is usually observed from the fifth decade onward, but may on rare occasions be observed in the third and fourth decades. Rarer still are the

teenage cases reported by Rushton³ and Worth;¹ the disease had a familial pattern in these patients.¹

Worth¹ points out that the whole bone shows evidence of change when the mandible or maxilla is involved (Figure 4); otherwise the lesion is probably not a manifestation of Paget's disease. This observation refers only to the jaws, however.

The trabeculae exhibit varied changes in Paget's disease. In some instances they are reduced in number but those which remain are quite coarse. In others the number of trabeculae is markedly increased. In both instances the trabeculae tend to change their normal pattern and assume a longitudinal direction, running in the same direction as the length of the bone (Figure 6). Islands of increased bone density, as illustrated in Figures 7 and 8, may be additional evidence of the disease.

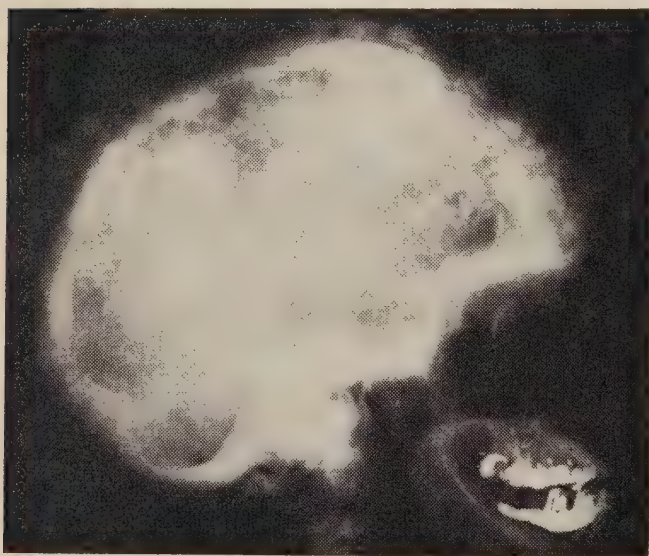


FIGURE 3 Lateral skull radiograph shows thickened calvarium and characteristic 'cotton wool' appearance resulting from multiple alternating radiolucent and radiopaque areas.

CASE REPORTS

Many of these clinical and radiographic features are illustrated by the following case reports.

Case 1.—This 75 year old man had a history of Paget's disease extending over the past 20 years. He lost his eyesight and his hearing deteriorated during this peri-

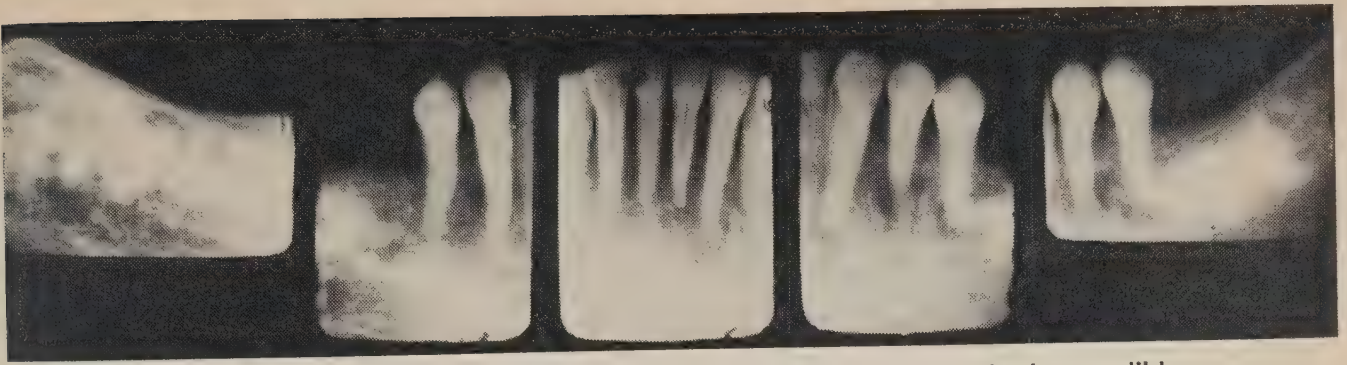


FIGURE 4 Periapical radiographs show 'cotton wool' appearance in the mandible.

od. On examination, he had lost his right eye and was almost totally deaf. Figure 1 illustrates thickening of the frontal and anteroposterior dimensions of the calvarium. Blood electrolytes, notably the serum calcium and phosphorus, were essentially normal, but the alkaline phosphatase was elevated to 88 King Armstrong units (N-2-4).

Case 2.—This 63 year old lady had a known history of Paget's disease for the past 15 years. Although the calvarium was slightly enlarged, there was no perceptible loss of sight or hearing. A major feature was the expanded maxilla (Figure 2) associated with typical hypercementosis of Paget's disease about the apical third of all maxillary teeth (Figure 5). Blood electrolytes were again normal with the exception of an elevated alkaline phosphatase (74 KA units).

Case 3.—Slight enlargement of the calvarium (Figure 3) was the dominant clin-

ical feature in this 66 year old lady with a six year history of Paget's disease. Her serum calcium and phosphorus values were normal, but her alkaline phosphatase was elevated to 85 KA units.

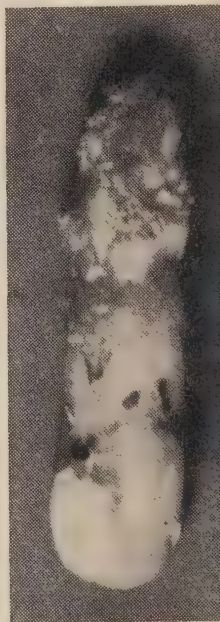
Case 4.—Elevated alkaline phosphatase was also observed in this 63 year old man with a 10 year history of Paget's disease. Radiographs disclosed the typical 'cotton wool' appearance of the mandibular bone (Figure 4).

Cases 5-7.—Figures 6-8 illustrate further radiographic changes observed in the mandible and maxilla of three other proven cases of Paget's disease.

SUMMARY

The radiographic and clinical manifestations observed in the skull and oral cavity of seven patients with proven Pa-

FIGURE 5 Periapical radiographs (left) and photograph of an upper lateral incisor (right) illustrate hypercementosis typical of Paget's disease.



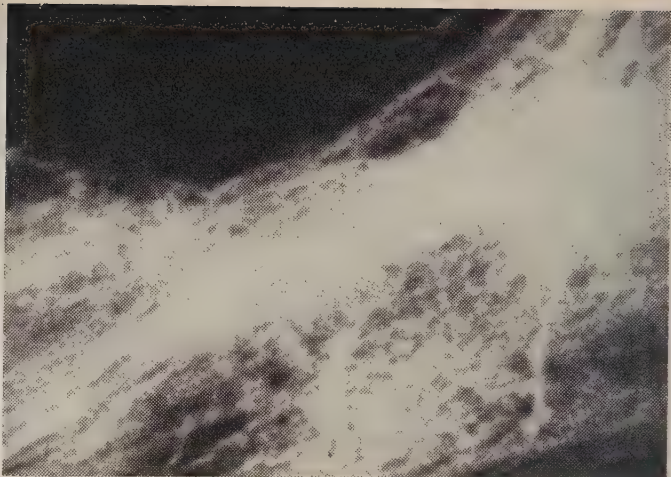
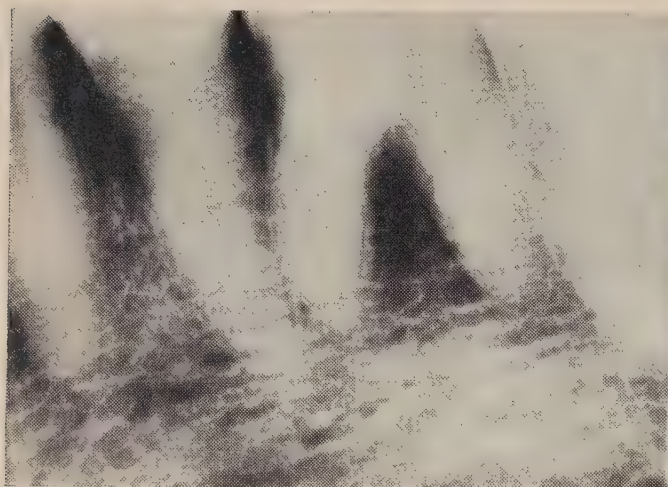


FIGURE 6 Mandibular radiographs illustrate directional change and thickening of the trabeculae in Paget's disease.

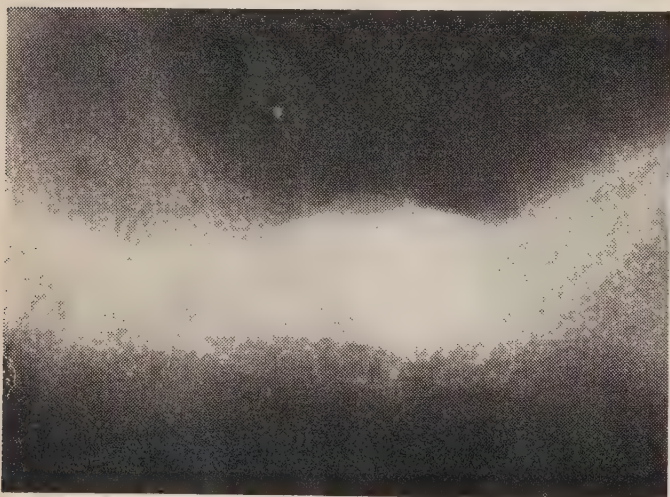
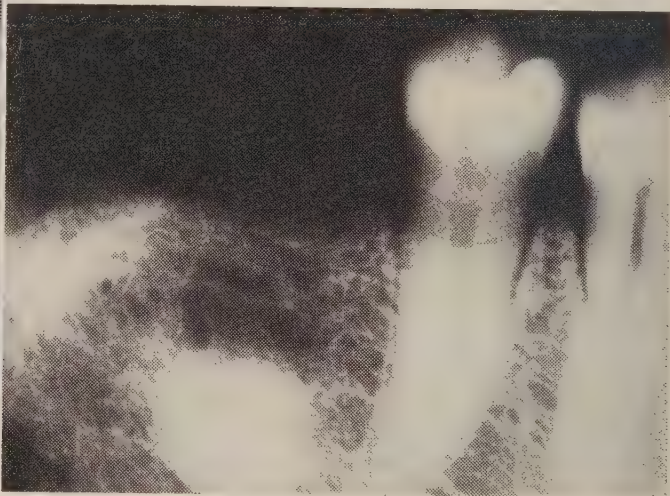


FIGURE 7 Radiograph shows granular bone, directional change of the trabeculae and a round area of dense bone in the posterior part of the maxilla.

FIGURE 8 Mandibular radiograph shows change in the trabeculae and a round area of dense bone.



get's disease have been described and illustrated.

The authors express appreciation to Gordon Pringle, Steven Burany and Margaret Hearn of the Audiovisual Aids Department, Faculty of Dentistry, University of Toronto, for the preparation of photographs.

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Improved coronal retention with minimal pulp damage: a summation of principles

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Operative procedures to restore mutilated vital teeth can provoke severe pulpal injury notwithstanding the presence of secondary dentine. Retention by means of multiple pins is a partial answer to the problem. A cast coping with a circumferential grip, cemented with a zinc oxide-eugenol type cement, is the kindest treatment for the pulp of a broken down tooth. If the prognosis for the pulp is in doubt, endodontic treatment followed by the fitting of a dowel in the root canal will give maximum retentive results.

Les travaux visant à restaurer les dents vitales mutilées peuvent provoquer un dommage grave à la pulpe, et cela en dépit de la présence de dentine secondaire. La rétention au moyen de crampons multiples permet de résoudre partiellement ce problème. Un ensemble de pivots ayant prise sur toute la circonférence et placés avec un ciment à base d'eugenol et d'oxyde de zinc, assure la meilleure protection possible à la pulpe d'une dent mutilée. Si le pronostic est douteux pour la pulpe, on atteindra la rétention maxima grâce à un traitement endodontique suivi de l'insertion d'un pivot radiculaire dans le canal de la dent.

Modern armamentarium, materials and operative concepts have greatly increased our ability to preserve the natural dentition. Despite the ravages of caries and periodontic disease, we can often achieve through full-mouth reconstructive procedures an aesthetic and functional occlusion supported by less than the normal number of roots. These cases give rise to a host of new problems, however. Not the least of these is the lack of retention available on badly broken down crowns and stumps. The dentist must then decide whether or not the pulp of a given tooth can tolerate pin-retained full coverage. He must therefore be fully conversant with all the factors that affect pulpal health.

PRE-OPERATIVE FACTORS

Carious lesions are commonly held responsible for initial inflammatory pulp reactions and secondary dentine deposition. Unfortunately, the early pulpal responses are often initiated long before such lesions become overt. Langeland and Langeland¹ have shown that pulpal inflammation exists in impacted molars. Further, because of their hardness, we tend to think that teeth are sound and impenetrable in the pre-carious state. Yet irritants can penetrate the enamel and

dentinal tubules of sound teeth with etched interproximal areas.² The initial pulpal response is inflammation and the resultant scar tissue is known as secondary dentine.³ Shroff,⁴ Diamond et al⁵ and Hassan et al⁶ have expressed doubts about the effectiveness of this hard tissue as a defence barrier and consider it more penetrable than was formerly believed.

When a carious lesion appears, the pulpal response becomes more pronounced. Adventitious secondary dentine⁷ resulting from inflammatory stimulation of the odontoblastic process is rapidly deposited. Orban⁸ describes this hard tissue as irregular and having a different structure than regular dentine. Although secondary dentine is denser, it is nevertheless easily penetrable by bacteria, their toxins and the many chemicals employed in cavity preparation.⁹ The old and empirical concept that this defence tissue protects the pulp is therefore open to question.

PULPAL RESPONSES TO OPERATIVE PROCEDURES

Despite today's efficient operative techniques, modern equipment and materials are no kinder to the pulp than their more primitive antecedents. Varying degrees of pulpal inflammation result from tooth reduction by high-speed air driven handpieces.^{10,11} Stanley and Swerdlow¹² have shown that adequate coolants prevent pulpal burns but do not minimize the inflammatory response when the applied force is in excess of 8 ounces. As the amount of dentine over the pulp decreases, there is a parallel increase in pulpal injury.¹²

In the last decade Shooshan,¹³ Markley¹⁴ and Lorey et al¹⁵ set the trend toward multiple pin retention in mutilated teeth. They have advocated as many as eight pins, 2-5 mm. long and cemented in sound dentine with zinc phosphate cement. The splinting of periodontically involved teeth, as advocated by Shooshan¹³ and Overby,¹⁶ is generally confined to sound dental structures. Extensive caries in these cases is the exception rather than the rule. The sleeve for pin

retention must be judiciously placed to prevent pulpal involvement.¹⁷ This is extremely difficult in the light of our present knowledge.

Lorey et al¹⁵ have recently illustrated the direct relationship between the size and length of these pins and their retentive value. The two factors are related in direct proportion.

It is common practice to build up the stump around these inserts with zinc phosphate cement or amalgam. The placement of at least three coats of cavity varnish over the exposed ends of the dentinal tubuli protects the underlying pulpal tissue adequately according to Zander.¹⁸ Swerdlow and Stanley¹⁹ contend that pulpal irritation from amalgam in direct contact with dentine is twice as great as from zinc oxide and eugenol cements. When self-curing resins are used, their irritant qualities can be reduced by the use of a cement base.²⁰

It is difficult to assess total pulpal damage from sterilizing and drying cavity preparations. Agents such as alcohol, thymol and silver nitrate, to mention a few, have been liberally employed for this purpose for years. There is no doubt that the pulp is readily accessible to chemicals deposited on the cut ends of desiccated dentinal tubuli.¹¹ Where wet preparations are employed, absorption of foreign materials is reduced.¹⁰

Howe introduced ammoniated silver nitrate in 1917. It became an accepted dental remedy by 1934. The devastating effect of this substance on pulpal tissue was not effectively demonstrated until 1961 by Seltzer and Bender.²¹ Many teeth which are prepared as abutments today still carry the visible marks of this chemical. They should serve as a definite warning to the dentist of already present pulpal damage.

CONCLUSIONS

Numerous investigators^{3,4,11,15,22,23} have demonstrated the inflammatory response of the pulp to operative procedures and materials. The cumulative effect of these irritating actions can be extensive. Secondary dentine is not an effective de-

fence mechanism. Consequently, all further trauma should be avoided when restoring mutilated teeth. A cast coping with a circumferential retentive grip, cemented with a zinc oxide-eugenol type cement, is the kindest treatment that a previously abused pulp can receive. If the vitality of the tooth is questionable, endodontic therapy followed by the fitting of a dowel in the root canal will give maximum retentive results.

Dr. Dow is a special lecturer and postgraduate instructor in endodontics at the School of Dentistry, University of Washington, Seattle. This paper was presented before the Canadian Academy of Restorative Dentistry at Vancouver, June 25, 1968.

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Pain relief with a topical choline salicylate gel in dental practice

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A topically applied choline salicylate gel gave complete or moderate relief to 45 of 50 patients suffering postextraction pain or pain from dry socket, denture irritation, pericoronitis, canker sores, dentition, gingivitis or labial lesions. Duration of relief was permanent in one patient and averaged 3.4 hours in the others where the medication was effective. Repeated self-administration gave similar results for recurring oral pain.

De la gelée de salicylate de choline, appliquée localement, a soulagé complètement ou partiellement 45 à 50 patients qui souffraient d'alvéolite, d'irritation causée par un dentier, de péri-coronite, d'aphtes, des complications de l'éruption dentaire, de gingivite ou de lésions labiales. Le soulagement a été permanent chez l'un des patients et d'une moyenne de 3.4 heures chez les autres. Des auto-applications répétées ont donné le même résultat chaque fois que la douleur recommençait.

Relief of pain is the most urgent and the most welcome emergency treatment in oral surgery and medicine. The mild non-narcotic analgesics, customarily administered as tablets or capsules, do not give fast enough relief of pain associated with dental conditions. Use of acetylsalicylic acid and phenacetin, the leading oral analgesics, is also hedged with reservations.¹

A topical preparation of choline salicylate specifically formulated for oral application (Teejel Gel, The Purdue Frederick Company [Canada] Ltd.) reportedly gives rapid and continuing pain relief in various conditions encountered in dental practice.^{2,3} This preparation is also used for symptomatic relief in infant teething.⁴⁻⁶ Choline salicylate is said to be effective as an analgesic, antipyretic, and anti-inflammatory agent when taken orally.^{7,8} It is provided in the form of a gel with a licorice-flavoured vehicle containing ethyl alcohol. Each application, approximately 200 mg. or a half-inch ribbon, as extruded from the tube, contains the salicylate equivalent of one-fifth of a grain of acetylsalicylic acid. The material is said to give rapid relief when applied topically. It is suitable for self-administration in the event of recurring pain — a valuable feature in dental practice.

The following report describes my personal experience with the choline salicylate gel in 50 patients.

METHOD AND MATERIAL

Thirty-seven female and 13 male patients participated in the study. Forty-

TABLE 1 Pain relieving effects of a topical gel containing choline salicylate.

Cause of pain	No. of patients	Degree of relief*				Evaluation of effectiveness				Time* (exclusive of 'failures')		
										No. of patients with 'immediate' relief	Onset of response: average (range) in 46 patients	Duration of of relief: average (range) in 45 patients†
		Complete	Moderate	Slight	Nil	E	G	F	P			
Dry socket	13	8	3	1	1	6	5	—	2	5	10 mins. (0-30)	2 hrs. (1-4)
Denture irritation	16	13	2	1	—	14	1	—	1	6	1.7 mins. (0-5)	5 hrs. (2.5-12)
Postextraction	5	4	1	—	—	4	1	—	—	2	4.2 mins. (0-10)	5 hrs. (2.5-12)
Pericoronitis	4	2	1	1	—	2	1	1	—	1	4.5 mins. (0-15)	2.5 hrs. (0.25-4)
Canker sores	3	1	1	—	1	1	1	—	1	1	0.8 mins. (0-15)	2.5, 7.5 hrs
Dentition	2	2	—	—	—	2	—	—	—	1	2.5 mins. (0-5)	3, 6 hrs.
Gingivitis	1	1	—	—	—	1	—	—	—	1	immediate	6 hrs.
Labial lesions	6	5	1	—	—	5	1	—	—	2	2 mins. (0-5)	3 hrs. (2-4)
Totals	50	36	9	3	2	35	10	1	4	19	4.1 mins. (0-30)	3.4 hrs. (0.25-12)

*Refers to first application.
†In one patient relief was permanent after a single application; duration is therefore omitted.

four were adults, with an average age of 32 years. Of the remaining six, one was a teething infant of seven months, and five were from 7-13 years old. The conditions with which pain was associated are shown in Table 1.

The test agent was initially administered in the office. One-quarter to one-half inch of gel was squeezed from the tube and gently rubbed onto the affected area. Patients were then given a tube of gel and instructed to use it in the same way one to four times a day for as long as necessary to relieve recurring pain. No other medication was administered.

All participants returned to the office soon after discontinuing the use of the medication — generally on the next day. The area to which gel had been applied was examined for any evidence of mucosal change.

Criteria for evaluation of results were: excellent — complete relief of relatively long duration; good — less than complete relief but of relatively long duration or complete relief of relatively short duration; fair — slight relief of brief duration; poor — no relief or very slight relief.

RESULTS

Results are summarized in Table 1. In 90 per cent of patients, excellent to good results with complete to moderate relief of pain were obtained. Forty patients (80 per cent) reported relief of pain within five minutes, 19 of these within less than one minute ('immediate' or 'instantaneous') after application of the test agent. In all but one of the patients who experienced any degree of pain relief, the dura-

tion of relief following the first application averaged 3.4 hours, ranging from 15 minutes (one patient) to 12 hours (two patients). In one patient (with dry socket) there was no recurrence of pain after the first application. Thirty patients (60 per cent) reported three hours or more of pain relief.

Overall, onset of relief ranged from 'immediate' or 'instantaneous' to 30 minutes after application of the test agent. Questioning of the patients upon their return visits suggested that there was no substantial change in the time of onset and the duration of pain relief with repeated administration. Therapy was continued in the successful cases as long as pain continued to recur. It varied in duration from one to nine days, with an average of three.

In the group of patients with denture irritations, complete relief was reported in six out of eight with new or immediate dentures, moderate relief in one, and slight relief in one. In eight patients presenting lesions under old dentures, complete relief was reported in seven, moderate relief in one. In all these cases, the test agent was given prior to, or concomitant with, necessary mechanical adjustment of the dentures.

In the 13 patients with dry socket, 'immediate' pain relief was reported by five, while six others reported relief in from four to 30 minutes, with an average of 17 minutes. Pain relief in these 11 patients was complete in eight and moderate in three. In 10 of these patients relief lasted from one to four hours, with an average of three hours. In one patient pain did not recur after the first application, while two patients reported that relief was slight or nil.

Pain relief was excellent to good in all patients with labial lesions. These involved angular lip sores and herpetiform lesions (two each), one traumatic ulceration of the lip, and one split corner of the lips.

An expected incidental effect, in view of the alcoholic content of the vehicle and the fact that most of the lesions to which it was applied were open wounds, was transient numbness and stinging or burning upon application. Nineteen patients reported both stinging or burning and

numbness, 18 stinging or burning only, and five numbness only. The stinging or burning was slight in most cases, severe in none. This transient effect did not deter any patient from persevering with the medication.

In all patients the mucosal areas treated, upon cessation of therapy, were either normal in appearance, unchanged, or progressing toward normal. No signs of irritation attributable to the test medication were observed.

One patient reported stinging, nausea and increased salivation following a single application of the test agent which brought her 12 hours of complete relief from pain occasioned by denture irritation. Onset of relief was one to two minutes after application. She refused further medication.

COMMENT

While the judgement of pain relief is necessarily subjective, the dentist quickly learns to distinguish the signs of pain and of its relief in the patient. In some patients the rapid effect of application of the test medication was dramatic. In 17 of the 19 who reported 'immediate' or 'instantaneous' relief, there was complete relief of pain for 0.5 to 7.5 hours (average 3.4 hours) after application.

The duration of topically-induced relief of pain, especially in such difficult conditions as dry socket, was surprising and gratifying. In the dry socket cases the incidence and degree of pain relief compared favourably with that experienced from packing with medicated gauzes. Although one patient complained of difficulty in applying the gel to the socket, self-medication appeared to be completely practical for most, and was of economic benefit as well as convenience to the patients in that it obviated the necessity for return visits for re-packing, thus eliminating time loss at work. In the dry socket cases the required duration of therapy was from one to nine days, with an average of four days.

The gel appeared to be entirely practical for self-administration in recurrent pain. Its topical use eliminated the tendency to overdosage which has been noted

in some patients given other oral medication for pain relief at home.

Acceptance of the licorice-flavoured medication was good in all patients who experienced pain relief, except in one patient who reported nausea and increased salivation.

SUMMARY AND CONCLUSION

Fifty patients suffering pain associated with various oral conditions and procedures were given a topical medication containing choline salicylate.

Ninety per cent of these patients gained complete or moderate pain relief.

Immediate relief was reported by 19 patients (38 per cent). Onset of relief in all effective cases occurred within four minutes on average. Relief was complete in 36 patients (72 per cent), moderate in nine, slight in three and nil in two. Excellent to good relief was reported in 11 of 13 patients with dry socket.

Duration of pain relief was permanent after the first application in one patient, and averaged 3.4 hours in the other 45 in whom the medication was effective. Repeated self-administration brought similar results over treatment periods ranging from one to nine days, with an average of three days.

One patient complained of nausea and increased salivation following a single application of the medication which brought 12 hours of pain relief. Transient numbing or smarting in 42 patients was attributable to the action of the alcoholic content of the vehicle.

In this trial the choline salicylate gel was an effective topical agent for the relief of pain in a variety of conditions when applied in the office and when used as self-medication for recurring oral pain.

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John Stewart Mills (Essay on Liberty)

Medical, Dental and Pharmaceutical Auxiliaries: A Survey of Existing Legislation

World Health Organization, Geneva, Switzerland, 1968. (Available from the Queen's Printer, Ottawa) 143 p. Published in English and French. \$2.75

The number of professions allied to medicine, dentistry and pharmacy is constantly increasing, a trend which can be attributed, *inter alia*, to the development of new techniques in health care and to the ever-increasing public demand for a wide variety of complex forms of treatment. Under these circumstances, physicians, dentists and pharmacists find themselves obliged to assign the simpler and more routine tasks to specially trained auxiliary personnel.

An attempt has now been made to give as complete a picture as possible of the legally recognized auxiliary professions in 18 countries. This survey, which originally appeared in the *International Digest of Health Legislation*, illustrates the wide variety of patterns in the organization, classification and definition of the auxiliary professions in the various countries. Particular attention has been paid to such aspects as admission requirements to training programs, duration and content of training, examination syllabus, and professional duties.

The survey covers dental hygienists and dental technicians as employed in Canada.

Review supplied by WHO

A Handbook of Preventive Medicine and Public Health

Murray Grant. Philadelphia, Lea & Febiger, 1967. (Available from The Macmillan Company of Canada Ltd., Toronto) 242 p. Illus. \$6.75

This short book was written to integrate the subjects of preventive medicine and public

health for students of the health sciences. The material is organized into 14 chapters, one of which is on dental health. Other chapters are devoted to a wide variety of subjects, including health statistics, maternal and child health, mental retardation, and socio-economic factors in medical care. The coverage is not comprehensive because so many subjects are included and because the book is written for many different health disciplines. The result is an interesting and informative introduction to the fundamentals. However, the necessity to compress extensive material does create problems as reflected in the brief section on statistical terms and tests of significance. The treatment here is so basic that confusion results. The tables and diagrams are well chosen, but some bar diagrams (Figures 18 and 20) are labelled with unexplained numbers.

While the description of dental disease mechanisms is clearly designed for health professionals other than dentists, some dental information is illuminating. At present, the civilian population in the United States devotes about 10 per cent of current medical care expenditure to dental health. The average person spends about 6 per cent of his earnings on medical and dental care — a rise from the 4 per cent estimate of 30 years ago. However, the actual proportion of the medical care dollar going to physicians and dentists has decreased substantially over this 30 year period in favour of hospitalization and drugs.

One final gloomy statistic which emphasizes why dentists should be far more concerned about public health: about one-half of the children under 15 years of age in the United States have never been to a dentist.

D. W. Lewis

Headgear Orthodontics

Paul Meyer. Ridgewood, New York. Meyer Publishing Co., 1968. 560 p. Illus. \$40

Dr. Meyer states in the foreword that he intends "to make a case for headgear with such overwhelming evidence and testimony as to make the position of this tried and true method still more secure." The quantity of his evidence, some 560 pages, is indeed overwhelming. The quality of his testimony, however, could well have dealt extra-oral force therapy a cruel blow had its position been less secure.

Anyone who writes a scientific text assumes a great responsibility to his colleagues and profession and must be ready to answer for his efforts. He must select and edit to give form and order to his subject so that a unified concept is presented with clarity. In terms of these criteria, *Headgear Orthodontics* falls considerably short of be-

coming required reading for students or practitioners.

Dr. Meyer has produced a melange of poorly reproduced photographs accompanied by many pages of confusing notes in point form. He has also extracted numerous articles from the literature and has listed them alphabetically according to the original author's name. Thus an article of mere historic interest is weighed equally with one that is useful and informative. Notably missing is the work of S. J. Kloehe who has done more than any other person to make a case for extra-oral force therapy. Included instead are the 41 pages devoted to unnecessary reproductions of brochures and letters from dealers and manufacturers of headgear and face bows.

Headgear Orthodontics cannot seriously qualify as a scientific text. It is, at best, a catalogue of authors who have written articles about extra-oral force therapy.

A. M. Hayes

Pathology in Dentistry

A. F. Gardner. Springfield, Illinois. C. C. Thomas, 1968. (Available from The Ryerson Press, Toronto) 341 p. Illus. \$28.75

The author's apparent aim in this book, which was prepared primarily for dental practitioners, is to stress the relationship of the important pathological processes to the oral cavity and to emphasize the oral manifestations of systemic disease. It is consequently difficult to understand why he has ignored the oral manifestations of many endocrine disorders and developmental and genetic disturbances. Moreover, the emphasis on certain diseases is peculiar; leprosy is discussed in some detail while moniliasis receives much less attention and is not illustrated. Many other entities are mentioned only cursorily.

In his enthusiasm to correlate general pathology with the oral cavity, the author repeatedly defines pathological processes as if they apply only to the mouth. He states, for instance, that haemangioma is a common type of oral angioma, that sarcomas are malignant oral neoplasms and that hamartoma "means that an oral tissue arises due to an error during embryogenesis."

The book contains numerous inaccurate and erroneous statements. Though some neoplasms do not metastasize, Gardner claims that "neoplastic diseases are the result of an uncontrolled new growth of cells of a tissue or organ which proliferates rapidly, invades tissue and spreads to distant sites." Elsewhere, he says that the cure rate for basal cell carcinoma is 100 per cent. These are not isolated examples.

His illustrations, though very numerous, are often mediocre. Many cover a whole page, yet fail to depict effectively the points

mentioned in the captions. Moreover, there is no need for three clinical pictures of gingival hyperplasia due to diphenylhydantoin (Dilantin) therapy, nine illustrations of an oral chondroma — an extremely rare lesion, seven pictures of mast cells, or two essentially similar pictures of the deposition of iron in connective tissue. Such padding is inexcusable. Even the type face is needlessly large. All of this simply increases the price of *Pathology in Dentistry*.

In short, I simply cannot recommend this book.

D. G. Gardner

Dental Elevators

G. C. Stacy. Sydney, Australia, Sydney University Press, 1968. 64 p. Illus. \$4.50

This book was prepared "primarily for dental students, as a manual of basic instruction for the use of dental elevators." In 57 pages the author has done a creditable job for a neglected and rather colourless phase of minor oral surgery. He presents the subject in a lucid manner with a profusion of diagrams and photographs.

Such topics as the relation of elevators to exodontia, the mechanics of elevators, and clinical principles of selection, application and maintenance are presented in a manner that is readily adaptable to undergraduate teaching techniques. *Dental Elevators* is recommended for all students of oral surgery and general practitioners.

R. K. Lindsay

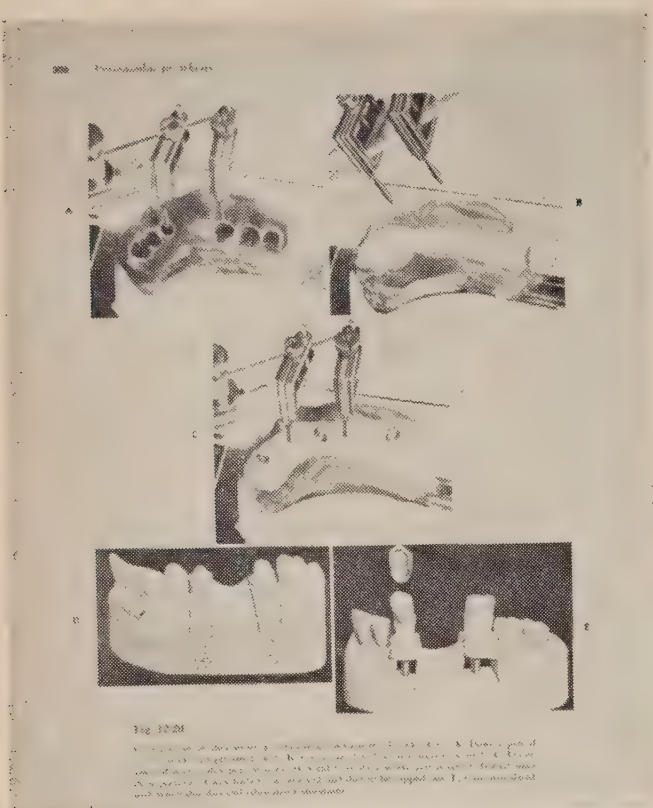
Periodontal Prosthesis

Arthur Grieder and W. R. Cinotti. Vol. 1 and 2. St. Louis, The C. V. Mosby Company, 1968. 660 p. Illus. \$61.60

This unique two-volume publication marks the integration of two branches of dentistry — periodontics and prosthodontics. The authors, who are teachers as well as private practitioners, were well aware of the need for such a book. Diminution of the boundary lines between various departments or specialties of dentistry is badly needed in this age of over-specialization.

Grieder and Cinotti stress that modern dental treatment requires a team approach. Thus, they point out "that periodontal treatment techniques can eliminate diseases of the supporting tissues of the teeth, [but] prosthetic appliances must be relied upon to serve as prosthetic replacements, to distribute occlusal forces equitably, and to serve as splints."

The first volume begins with the stomatognathic system and the physiology of oc-



clusion. The authors then explain the rationale for the classification, diagnosis and prognosis of periodontic disease. Endodontic, surgical and orthodontic procedures related to periodontic prosthesis are explained in detail. General health, nutritional factors, and temporomandibular joint anatomy and dysfunction are brought into the overall picture. The remaining chapters deal with actual periodontic and prosthetic procedures, treatment planning and the psychological needs of the patient.

The second volume, which is just as well illustrated with drawings and photographs as the first one, describes the treatment of choice for selected specific cases. Step-by-step procedures are outlined for each treatment plan, ranging from case histories with minimum periodontic involvement and tooth loss to cases with severe periodontic destruction. Also described are prosthetic restorations of choice. These range from inlay-onlay restorations for the re-establishment of posterior occlusion to restorations based on the parallel and non-parallel techniques. The use and rationale for extracoronary and intracoronary direct retainers is presented and their fabrication is described.

My only minor criticism concerns a few instances where the authors seem to accept entirely the approach advocated by a manufacturer. On page 284, for example, the selection of tooth form according to face form may be questioned. Elsewhere the authors advocate back-action clasps on a free-end base abutment tooth. Furthermore, I do not see any justification for the exclusive use of a box-shaped form when placing an occlusal rest in a gold occlusal surface. But these are minor details which do not detract from the

overall merit of this publication. The authors clearly convey their belief that dentistry is a single entity and that the patient is entitled to benefit from all aspects of this entity. Their book has a secure place in the hands of undergraduate and graduate students; it also deserves a place in the library of the general practitioner. I only hope that more such books will be published in future.

O. P. Sykora

Atlas of Diseases of the Oral Mucosa

J. J. Pindborg. Copenhagen, Munksgaard, 1968. (Available from W. B. Saunders, Toronto) 215 p. Illus. \$30.25

This book can be described in three words: "Excellent! Outstandingly useful!" It is highly recommended for students and practitioners. Most of the 130 conditions which are described have frequent or occasional significance for practising dentists in Canada. The book is, therefore, a valuable guide to diagnosis.

The format contributes significantly to its usefulness. Each double page spread has two excellent colour illustrations of clinical conditions on the right page and descriptions of these conditions on the left page. The descriptions are almost completely confined to clinical manifestations, not microscopic features. Brief statements of causes and prognosis and of frequency by age, sex and occupation are provided. As is usual for an atlas, treatment is not included.

Pindborg uses the 'International Classification of Diseases' published by the World Health Organization in December 1967. Some of the terms, like hydantoin instead of Dilantin, are uncommon, but pose no real difficulty.

Although this book is expensive, it is good value.

C. H. M. Williams

Restorative Dental Materials

F. A. Peyton. Ed. 3. St. Louis, C. V. Mosby Company, 1968. 553 p. Illustré. \$14.05

Comme l'édition précédente, la présentation est excellente. La nouvelle publication offre certains progrès. Spécialement en ce qui concerne les procédures de coulée, certains principes biophysiques; de même, le chapitre qui traite des substances plastiques. Les photographies sont plus nombreuses et des mieux choisies.

A notre faculté dentaire, ce volume figure parmi les ouvrages à consulter. Il aide grandement celui qui veut entreprendre un travail en recherches dentaires.

Camille Patenaude

Dissent has its virtue

Short of the Board of Governors, few institutions are as important for Canadian dentists as the various councils, committees and sections of the Canadian Dental Association. They furnish the indispensable arena where members from distant points can exchange opinions and pool ideas about issues that confront the profession. The participants "free-wheel into a wide range of controversial problems and emerge with challenging concepts," says P. E. Currie, chairman of the Dental Services Committee. "Such excursions," he observes, "may evoke a consensus which, although less than a total conviction, can still provide a necessary framework for dialogue within the profession."

Not everyone can take a direct part in these spirited discussions, but through the news columns of the Journal the means are at hand for every member to be informed about questions that may affect the status, organization or administration of the dental profession. The Journal reports these issues so that individual members may express their views before the questions are put to the Board of Governors. The act of reporting, it must be added, implies neither sanction nor disapproval; that is the prerogative of the Board. Though CDA councils, committees and sections may propose, it is the Board which selects the initiatives that become identified with the national association.

The Board is a veritable melting pot for imaginative ideas contributed from every source within the profession. Though its resolutions reflect the views of a majority of Canada's dentists, they are certainly not inflexible dictates. Their true purpose is to aid corporate and individual members discharge their responsibilities with a greater awareness of the climate of opinion across the land. Implicit in this relationship is a full recognition of prerogatives that are reserved to the corporate members by statute and custom. The resulting partnership is best exemplified by such cooperative undertakings as the relative value system for fee determination. Developed by the CDA Dental Services Committee and ratified by the Board of Governors, the relative value system is now widely applied by corporate members who in all likelihood would not have initiated the system on their own.

Unanimity — the kind that cements such partnerships — is certainly an objective to aim at. But if we are going to be realistic we must also accept occasional substantive and jurisdictional disagreements as part of the game. And dissent, as in the case of recent proposals concerning dental auxiliaries and the grouping of specialties, does not necessarily impede progress. Regardless of their fate, these proposals produced a worth-while debate in the profession, and the controversy thereby engendered may well be the essential catalyst for a better resolution of such thorny problems. Indeed, we may never find the most appropriate answers to our problems if we curtail discussions by magnifying jurisdictional sensitivities unfelt by most dentists.

La dissidence a ses vertus

Les sections, conseils et comités formés par l'Association dentaire canadienne ont une importance capitale que surpassent seulement les réunions du Conseil des Gouverneurs. Ils fournissent ce terrain de discussion indispensable où les membres de notre Association, bien que séparés par des distances parfois énormes, peuvent échanger des opinions et mettre en commun des idées sur les problèmes qui confrontent notre profession. Selon P.E. Currie, le président du Comité des services dentaires "il se produit un libre échange de pensées sur un vaste champ de problèmes épineux et les participants en émergent pleins d'idées provocatrices". "De telles excursions", remarque-t-il, "peuvent donner naissance à une opinion générale qui, sans représenter une conviction totale, nous aide à ériger une charpente sur laquelle le dialogue peut se faire à l'intérieur de la profession".

Tout le monde ne peut pas évidemment prendre part directement aux discussions, mais par l'entremise de la chronique des nouvelles du Journal, chaque membre a le moyen d'être bien informé sur les questions qui touchent l'organisation, l'administration, ou la position de notre profession. Le Journal fait le compte rendu de toutes ces discussions de sorte que n'importe quel membre peut exprimer ses sentiments avant leur présentation au Conseil des Gouverneurs.

L'action de faire un compte rendu, il faut le rappeler, ne fait supposer ni le consentement, ni la désapprobation car le Conseil des Gouverneurs est le seul à avoir ce privilège. Bien que les conseils, les comités et les sections peuvent faire des propositions, c'est le Conseil des Gouverneurs qui fait le choix parmi les initiatives qui s'identifieront à l'association nationale.

Le Conseil est un véritable creuset où se refondent la somme des idées contribuées par tous les collaborateurs. Quoique les résolutions reflètent l'opinion de la majorité des dentistes au Canada, elles ne sont certes pas des ordres absolument rigides. Leur but est d'aider les membres corporatifs et les membres individuels à s'acquitter de leurs responsabilités avec une plus grande connaissance de l'opinion à travers le pays. Ce rapport reconnaît implicitement les prérogatives qui sont réservées aux membres corporatifs par la loi et la coutume. L'entreprise coopérative qui a donné naissance à une échelle d'honoraires basée sur la méthode de valeur relative est le meilleur exemple qu'on puisse donner. La méthode de valeur relative a été développée par le Comité des services dentaires de l'ADC et approuvée par le Conseil des Gouverneurs. La méthode a été souvent mise en pratique par les membres corporatifs qui selon toute probabilité n'auraient pas pris indépendamment l'initiative d'en créer une.

L'unanimité consoliderait les opinions des associés et ce but vaut naturellement la peine d'être poursuivi. Mais si nous allons être réalistes, nous devons aussi accepter dans les règles du jeu les désaccords sur les droits et la juridiction qui peuvent éclater de temps en temps. La dissidence, comme nous l'avons vu dans le cas des récentes propositions à l'égard des auxiliaires dentaires et du regroupement des spécialistes, ne doit pas nécessairement gêner le progrès. Ces propositions ont néanmoins engendré une discussion très utile et donné naissance à une contestation qui semble être le catalyseur indispensable à la résolution des problèmes épineux. A vrai dire, on ne trouvera peut-être jamais de solution convenable si le débat est restreint par une susceptibilité exagérée sur la juridiction que peu de dentistes semblent ressentir.

letters • courrier

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space and requires that all letters be signed. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

■

Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Toute communication doit être signée. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association dentaire canadienne. Vous êtes invités à participer dans cette section du Journal.

Multi-bladed Burs

To the Editor:

A recent article on composite restorations (J. Canad. Dent. Ass. 34:469, September 1968) described the use of the new twelve-bladed carbide burs (Jet Burs, Morrisburg, Ont.) in trimming these restorations. I would like to comment further on my experience with these and other new multi-bladed burs.

I mainly use the 7404, -6, -8 egg-shaped burs for occlusal correction. When used with a variable speed control and a metal chuck, these burs will cut tooth structure, gold, amalgam and porcelain. They cut gold so smoothly that subsequent polishing is often unnecessary. They also cut porcelain without chipping. Unlike diamond points, they cut porcelain so smoothly that only a little subsequent buffing will often suffice. I frequently use these burs to reduce excess buccal contour on molar porcelain facings, gold crowns or tooth structure so as to conform with the fluting necessitated by gingival recession.

The 7104, -6, -8 flame-shaped burs have a reverse curve at the tip. These burs can be used for cutting and trimming alternate con-

vex and concave surfaces, particularly on the lingual aspect of anterior teeth. The fine tip is especially suited for trimming proximal surfaces of composite restorations and gingival margins of jacket crowns. These burs can also make double bevels on inlay or onlay preparations and lingual contours of anterior three-quarter crown preparations (burs of the 7404, -6, -8 series may also be used for this purpose). Flame-shaped burs can also be used for occlusal correction. The fine tip finishes the sulci very nicely in the final stages of correction.

The 7204, -5, -6 elongated tapered fissure burs are designed for trimming the gingival margin of composite restorations. Standard tapered burs often fail to reach the required area because the handpiece head interferes with the incisal edge of the tooth. Multi-bladed burs in this series can be used for making post preparations in devitalized teeth to finish crown preparations, thereby replacing coarse six-bladed burs which are difficult to handle. The multi-bladed burs can also be used to finish crown preparations, eliminating the need for finishing discs and strips.

The 7304, -5, -6 burs have a long inverted taper. The tips of these burs achieve higher cutting speeds than conventional tapered fissure burs such as the 1169-1170 series. The cutting blades are of similar size, however, and therefore cause no more vibration than conventional tapered fissure burs. These burs are particularly useful for shaving fine lingual veneers in three-quarter crown preparations for bicuspid and molars. The rounded edges are particularly good for making a fine chamfer margin. Inverted taper burs can also cut mesio-occlusal or disto-occlusal cavities. Though they seem to cut more slowly than conventional burs, the lack of vibration, the smoothness of the cut and the absence of tooth fracture makes them very popular, particularly with patients.

All of these multi-bladed burs cut so smoothly, yet so efficiently and with so little vibration, that the risk of enamel fracture is greatly diminished. I also like the following six-bladed burs with relatively small flutes:

The 1169L and the 1170L tapered fissure end cutting burs are ideal for cutting grooves, pin holes and chamfer shoulders in three-quarter crown preparations. They are also good for starting small proximal cavity preparations.

The 1556, -7, -8 cross cut fissure burs are useful for cutting away unwanted gold

crowns, bridges and old amalgam. These end cutting burs can also be used to start a proximal cavity preparation.

The 330 tear drop bur may be substituted for the regular round bur and is useful in cutting small Class III and V cavities.

W. R. Scott, DDS,
925 W. Georgia St., Vancouver 1, BC.

Mistreatment of Laboratory Animals

To the Editor:

Although I do not profess to be an antivivisectionist, I do have a great affinity for animals. I was particularly offended by the illustrations in the February Journal in a research report by Drs. Attalla and Calvert, demonstrating the effect of drugs normally employed in endodontic treatment and inserted in the eyes of live dogs.

My objection is directed toward the research method. After 30 years in practice in which I have observed endodontics treated by everything except the 'elbow,' I find it hard to justify the relationship between the tissues of a dog's eye and the misery which the animal must have suffered for an equally doubtful conclusion.

J. D. Purves, DDS,
170 St. George St., Toronto, Ont.

To the Editor:

I regret that one of the illustrations in the mentioned article offended Dr. Purves. It makes one wonder where our dental standard would be today if many had similar attitudes. I too am an animal lover.

M. N. Attalla, BDS, MSD,
7 Parkdale Crsct., Calgary, Alta.

Suite à la correction chirurgicale des prémaxillaires supérieur et inférieur

Au rédacteur:

Vous serait-il possible de me faire parvenir deux exemplaires du Journal du mois de décembre 1968? Je vous explique la raison. La photo du jeune garçon qui paraît à la page 634 de ce numéro est celle de notre fils Luc à l'âge de 12 ans. Nous sommes très heureux et enchantés du bon travail du Dr André Charest et de son assistant, le Dr Guy Maranda. Nous calculons que ces deux messieurs sont des artistes en plus d'être des chirurgiens. L'enfant est heureux et beaucoup plus en santé moralement et physiquement. Je vous envoie une photo prise à la classe 14 mois après son opération.



Luc Hamel

J'espère que vous comprendrez la raison pour laquelle nous désirons ce Journal. Nous le voulons en souvenir de ce beau travail et afin d'encourager d'autres personnes à l'occasion. Vous remerciant à l'avance, car j'ai bien confiance que vous nous enverrez ces deux copies.

M. et Mme Clément Hamel,
1588 St-Michel,
Ville Ancienne Lorette,
Co. Portneuf, Qué.

Excision of Partially Calcified Lower Third Molar

To the Editor:

I enclose this preliminary note for publication about an operation for the removal of the partially calcified lower third molar which I have developed from my previously published work. The method consists intra-orally of the direct lateral trepanation of the mandible over the site of the developing third molar, instead of the usual vertical approach which involves traversing the external oblique ridge. Consequently, the external oblique ridge is preserved intact and the tooth is delivered through a 'window' on the external aspect of the jaw where the osseous covering is thin. At this site trepanation is easy. The operation time and the trauma are greatly reduced.



The full manuscript describing this operation has been submitted to the *British Dental Journal* and early publication is expected.

C. Bowdler Henry,
62 Harley St., London W.1, England.

THE WHOLE PROFESSION

a keynote address

The following text was adapted from a keynote address delivered at the opening session of the CDA national convention in Vancouver, June 27, 1968. The complete paper is obtainable from the author.

G. D. Stibbs,* BS, DMD,
Seattle, Washington

We are all deeply aware of the climate of urgency and unrest, the uncertainty that besets every walk of life today. We witness the paradox between great scientific achievements and the apparent toppling of moral values. Many people seek change for its own sake, whether it be good or bad. Others resist it doggedly. In between are those who encourage change if the proposed alteration is sound. One thing is certain: the impetus of change cannot be deflected, nor should it be. It must, however, be guided into the most productive channels.

THE GENERAL PRACTITIONER'S INFLUENCE

In dentistry, too, there is much soul-searching and incentive to change. P. S. Christie,¹ a former CDA President, portrayed this very clearly when he stated, "the forces exerted upon the profession to change its relationship to society are very real. There are pressures from above and from below. . . . These indicate that changes must be made, or they will be forced." Former US Secretary of Health,

Education and Welfare J. W. Gardner² expressed a similar view when he wrote that "we cannot stand still; there must be renewal and innovation." The recent report of the US National Advisory Commission on Health Manpower³ echoes these views and stresses that "all of [its 50 recommendations] are directed to the general thesis that 'more of the same is not enough'."

In dealing with problems confronting the profession, the Canadian Dental Association's Board of Governors strives to implement those changes which best serve the interests of its members and the public. The general practitioner should exert more influence in this process than he does at present. He is the most vital force in dentistry. He has an overall perspective of his patients' needs. He also knows that the ability to render dental care of the highest quality comes only from dedication, constant training and much effort.

Dentistry's first duty is to satisfy the dental health requirements of the public. If the primary need is for remedial care, then educators must first train dentists who can treat, and researchers and specialists must do all they can to facilitate

treatment by the general practitioner. This does not deny the need for sound preventive measures and for improved teaching methods which must be pressed with equal vigour.

Despite his potential strength, the general practitioner is apt to be timid in the presence of those who belittle the value of restorative dentistry. This has led some observers to the erroneous conclusion that almost anyone can practise dentistry. In fact, one well-intentioned and influential official recently proclaimed that (1) "most [US] dentists are overtrained for the majority of their problems;" (2) that health care cannot be streamlined if we adhere to the one-to-one relationship of patient to single practitioner; and (3) that "for the poor, concentrated populations, after the diagnosis is made by the dentist, the patient should be treated by a technician or specialist."⁴ He also claimed that cleaning of teeth, topical application of fluorides, treatment of most caries, and simple extractions could be handled by "a person with a few months to a year or so of training past the high school graduate level."

Some forms of treatment are admittedly less demanding than others, but I cannot accept the contention that "the treatment of most caries and simple extractions" is easy—not if they are performed with the patient's best interest at heart.

It may appear to an outside observer that our schools lay undue stress on technical training; yet the fact remains that many graduates fail the clinical examinations of licensing boards or cannot routinely produce sound, serviceable restorations. The critics fail to realize that working on a living patient is entirely different from performing a technical exercise at a laboratory bench; that each patient is a distinct entity; that in each the degree of relaxation or of apprehension varies, as does the sensitivity of the teeth, the reaction to anaesthetics, and cooperation in the chair. The only things that make treatment of caries or some extractions seem 'simple' are the experience, skill, training and judgement of the clinician. Moreover, the durability and quality of the treatment depend on the clinician's integrity. These attributes are

not gained from a 'few months' of post-secondary school training.

I do not want to belabour this point but I must concur with the American Dental Association's Executive Director, Harold Hillenbrand,⁵ who said that the decisions for improved service "must be made through a consensus of the practising dentists, who represent the real work force which serves the American people. . . . The major thrust of progress in dentistry must come from practitioners." But if the general practitioner fails to express his convictions, others who do not have firsthand knowledge of his circumstances may introduce innovations of their own. Desirable or undesirable, such changes can have a profound effect on the dental health of the public.

DENTAL EDUCATION

It is the general practitioner who must evaluate the basic dental requirements of the public. The specialist can aid by filling in the details. But, important though the specialties are, we must keep their relationship to general practice in proper perspective. I hope that we will continue to encourage most young graduates to enter general practice. Some will undoubtedly opt for a specialty. The number who do so will necessarily rise but the increase should be in reasonable proportion to the number of general practitioners and to the demand for dental care.⁵

Continuing education of the general practitioner is essential if he is to discharge his responsibilities effectively. But despite the choice of periodicals, textbooks and refresher courses at their disposal, only 18 per cent of American dentists actually participate in programs of continuing education. This statistic causes me considerable concern, the more so since I question the quality of some of our undergraduate programs of dental education. Certainly, some graduates embark on dental practice insufficiently prepared to cope with the patients who come to them. As a result, established practitioners may encounter evidence of inadequate service which has been rendered by a new colleague in their com-

munity. Our licensing authorities are keenly aware of differences in the training and competence of young applicants for licensure. Indeed, some of these candidates are inexcusably weak. Yet is this their fault? Or is not the alma mater to blame?

Dental schools can easily lose touch with the needs of the general practitioner. Theory, science, research and specialty training are invaluable, but they must take their proper place in the curriculum. Young people who enter the profession need a balanced education that enables them to give their patients long-lasting service and thereby improves the public health. Ill-considered educational experimentation and overemphasis on theory and on specialized clinical subjects hamper rather than help the student. Those who detect such misplaced emphasis should inform the schools of their opinions.

PRESSURES ON THE PROFESSION

Let us turn from dental education to some of the pressures on our profession. We hear of the overwhelming demands for dental service that will be made by the public. We are told that the only way we can satisfy these demands is through mass production. We hear much of the need to recruit many more dental students. Yet, while many of their colleagues are fully occupied, a considerable number of dentists admit that their appointment books are not filled. The anticipated 'demand' for services is not a universal fact so far.

There has indeed been a marked increase in the population. Moreover, the introduction of various other health programs has aroused greater interest in the availability of dental benefits. And life expectancy over the past 30 years has been stretched by eight years in men and 12 years in women. But we must also remember that dental productivity in Canada has more than doubled during the same period.⁶ Several new dental schools have been established in the meantime. In some areas provision is also being made for auxiliaries to perform some of the

dental services which were formerly restricted to the licensed dentist.

The desire to be 'one's own boss' is one of the traditional reasons why applicants seek admission to a dental school. Dentists are an independent breed. Therefore those who seek to stimulate recruitment should take a second look at what they can offer young people who propose to enter dentistry. The profession is gradually losing its independence, its freedom of activity, the incentive for the creative and energetic individual to strive for excellence. Granted, many young people today have been reared in a protective society where security seems much more desirable than independence; but those with the greatest potential and those who could contribute most readily to a health profession will no longer feel the irresistible lure to dentistry.

Independent private dental practice still offers the best opportunity of providing quality dental care to the greatest number of people for the longest service at the lowest cost. Those who think that control of dental service by outside agencies is desirable should carefully read the reports of qualified observers⁷ who have lived and practised in a different environment. Only the well-informed practitioner can effectively guide the actions of professional associations, of dental educators, and of persons in other fields who try to effect change in dentistry. He should not blindly resist change, but he should encourage sound change.

*Professor and chairman, Department of Operative Dentistry, School of Dentistry, University of Washington, Seattle.

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*School of Dentistry,
University of Washington*

The following text was adapted from an address delivered at the British Columbia Hospital Dentists' meeting in Vancouver, June 28, 1968. The complete paper is obtainable from the author.

The future of hospital dentistry depends on three basic factors: the needs of the public, the desires of the profession and economics. Before discussing the future, we must first examine past and present problems.

PAST PROBLEMS

In the past, hospital dentistry has usually been oriented toward oral surgery. Oral surgeons did not necessarily monopolize the field, but dentists who enjoyed hospital privileges generally admitted a patient for an oral surgical procedure. Thanks to their persistent efforts, the role of oral surgery in hospitals is no longer questioned. And that is why physicians and lay persons usually associate hospital dentistry with oral surgery. Of course, we still have some very practical points of contention about oral surgery, but these are really problems between physicians and dentists. They arise from inadequate communication between the two professions or from politically inspired dissent between medical and dental specialties who have common surgical interests.

As a result, we have few well-established dental services in hospitals, except in US federal institutions. When they exist, such services are found in large metropolitan areas in departmentalized hospitals.

Only recently have general dental practitioners and specialists other than oral surgeons become interested in hospital dentistry. But even then, the interest is usually confined to dental services performed under general anaesthesia.

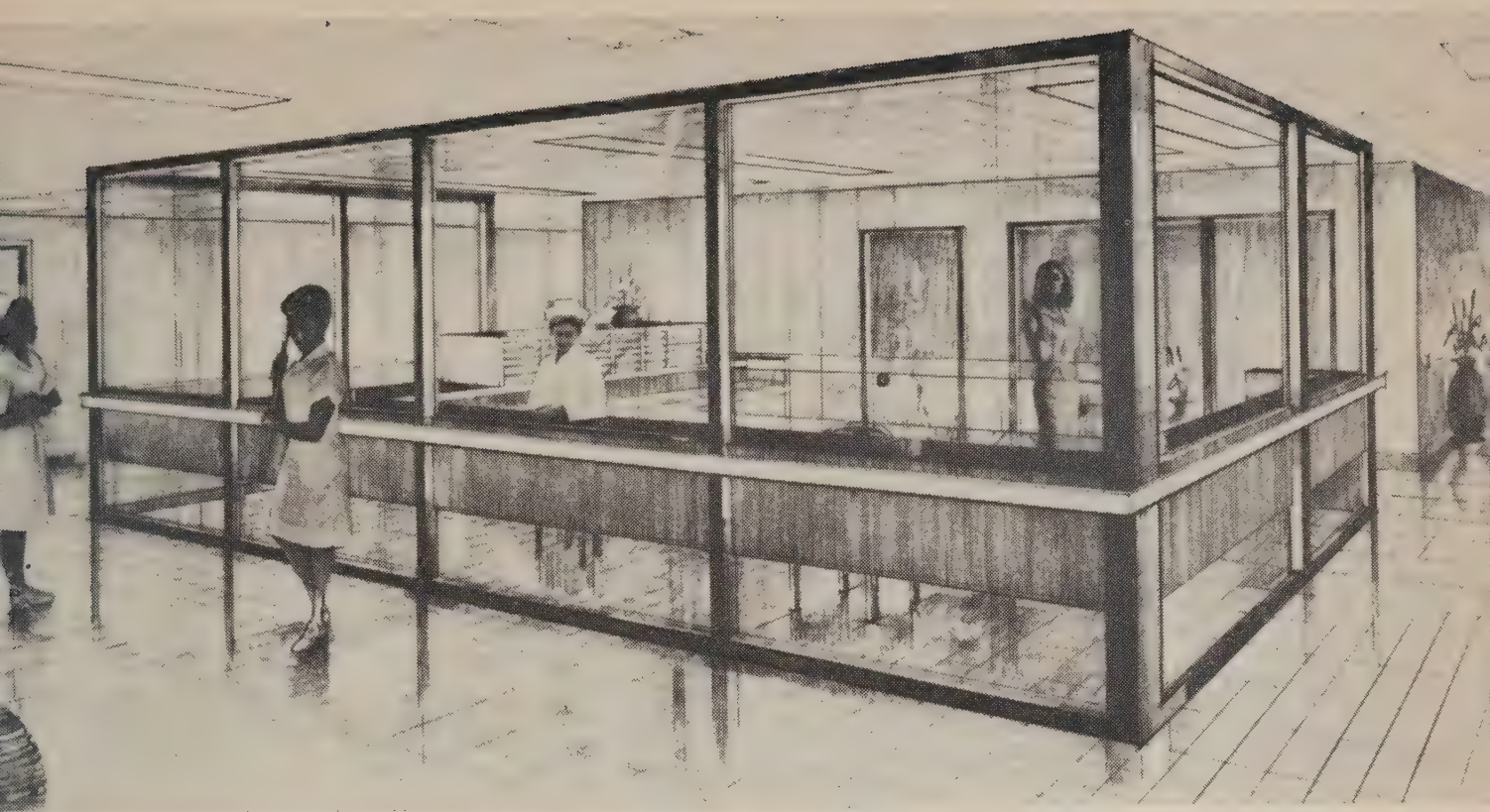
TRUE DENTAL SERVICE

A true hospital dental service is based on a corps of general practitioners and

specialists representative of most dental fields. It may have a house staff of interns and residents or full-time dentists. It may have outpatient treatment facilities and would certainly have access to operating rooms. In such a service dentists provide consultation and conduct rounds at periodic intervals for the purpose of seeing their own patients as well as those requested by other services of the hospital. Some comprehensive dental services provide dental examinations for all patients admitted to the hospital.

Dental services of this type are admittedly rare. They can, however, multiply if the profession shows sufficient interest. Using British Columbia as an example, such services could exist in every major hospital in Vancouver and Victoria as well as in regional centres like Prince

THE FUTURE OF DENTISTRY IN THE HOSPITAL



J. R. Hooley, DDS, Seattle, Washington

Rupert, Prince George, Kamloops and Nanaimo. Dentists in these centres would then have two practice environments: their own private offices and the hospital clinic or operating room.

PRESENT PROBLEMS

Apathy within the profession poses the major obstacle to further development of hospital dental services. The subject receives insufficient attention in the undergraduate dental curriculum. As a consequence less than 5 per cent of graduating students seek dental internships. The majority who enter practice are quickly oriented to the dental office and become very hesitant about rendering dental services elsewhere. This may be incomprehensible to the layman, but it is certainly understandable to every dentist who has designed and equipped his own office, hired and trained his own employees and assumed charge of the business



aspects of his practice. In the hospital he must leave these details to someone else. He must work with strange equipment, with assistants whom he has not trained and with a business system that is foreign to him. Furthermore, he has to learn hospital protocol and procedures. Taken together, this usually requires more time and energy than most dentists are willing to donate.

Another problem stems from most dentists' misconception of the role of dentistry in the hospital. Many view the hospital as a place for patients who require dental treatment under general anaesthesia. They do not perceive it as the nucleus site for continuing dental education, a place where dentists and physicians can rub shoulders and discuss problems of mutual interest. In short, they miss the opportunity to practise the full range of dentistry as learned in a dental school.

The dentist's legal entitlement to membership on a hospital staff was a problem in British Columbia until November 1967. His ability to issue written orders is questioned elsewhere. Moreover, some provinces still deny him the right to admit a patient to the hospital.

Beds are also scarce in many Canadian hospitals. Hospital administrators are therefore compelled to eliminate certain types of elective surgery or establish long waiting lists which delay the admission of patients for dental procedures.

And we cannot ignore the relations between dentists and physicians. Communication between the two professions is sometimes tenuous. Many physicians and hospital administrators still view the dentist as a technician and have sincere, if misplaced, misgivings about his ability to manage their patients. Others harbour doubts about the dentist's competence when confronted with unforeseen problems in a hospital. We must educate physicians and administrators about the dentist's qualifications and the objectives of dentistry in the hospital. If the profession is willing to do this, others will become more receptive to our needs and make whatever arrangements are necessary to accommodate us in the hospital.

Equally important is the need for guidelines for dental staffs in hospitals.

The US Joint Commission on Hospital Accreditation, its Canadian counterpart, and the American and Canadian Dental Associations have already taken the first steps, but the documents so far produced are vague and not very helpful for organizing dental staffs. Though local considerations must always predominate, we need more definitive guidelines that specify qualifications for staff membership, sample by-laws, rules and regulations, and guidance in determining hospital privileges.

It now costs \$60-90 a day to occupy a bed in an American hospital. Additional expense arises from use of the operating room (\$90-250), the anaesthesiologist's fee (\$50 and \$150) and other miscellaneous requirements (up to \$100). Consequently, a two day admission to the hospital for dental procedures is far more costly than treatment performed on an outpatient basis. No doubt similar circumstances prevail in Canada.

FUTURE TRENDS

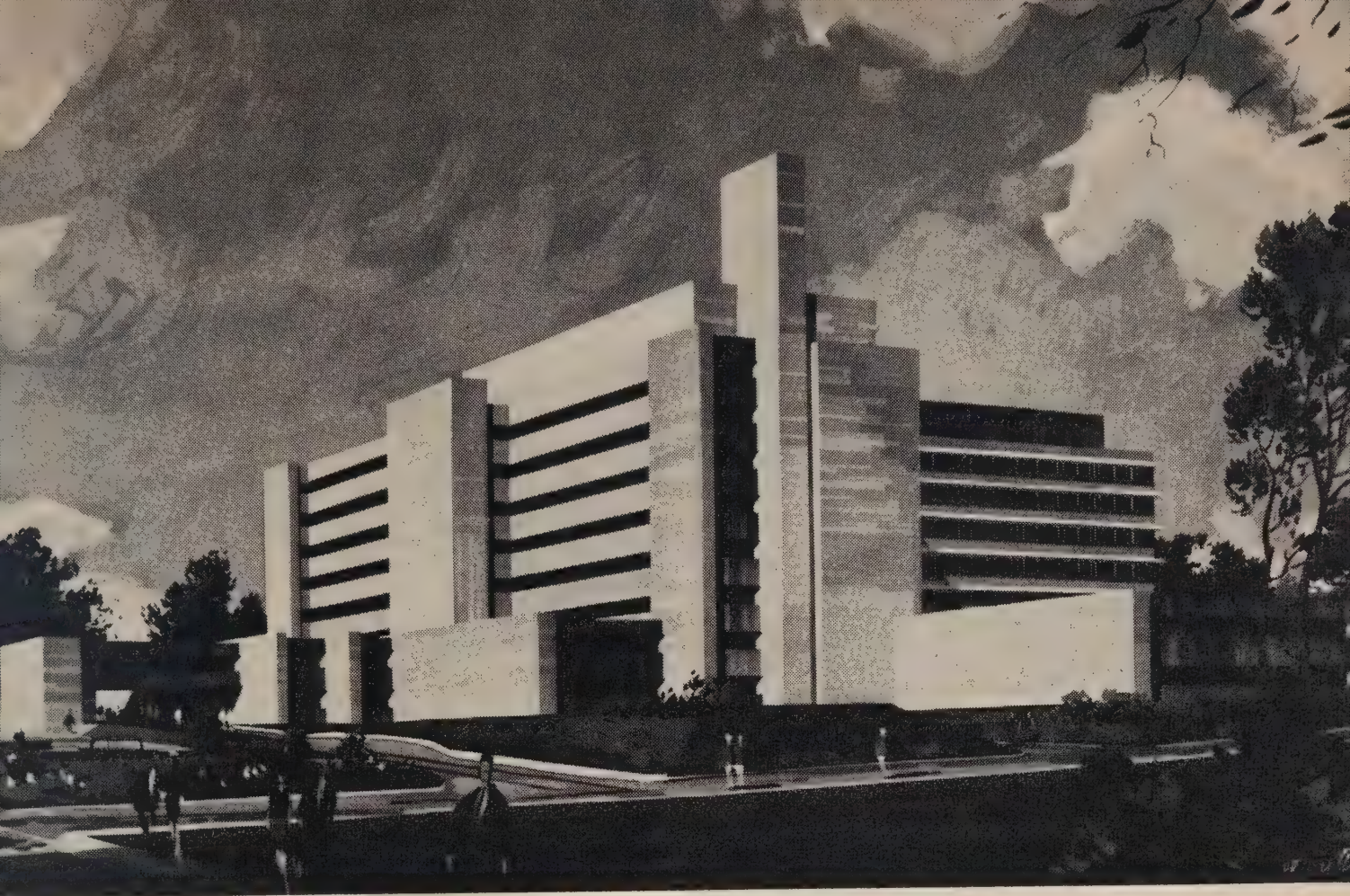
An enlightened public is requesting more dental care. This demand will increase under the impact of private and public insurance plans. Many of these patients have massive accumulated treatment needs. They are best handled under premedication or general anaesthesia supervised by an anaesthesiologist.

Many handicapped patients are now being seen in hospitals. As the expertise in treating these patients increases, more programs will be set up to meet their needs.

We also observe a trend toward group practice. Many of these groups will likely be located in hospitals.

Dental schools are placing greater emphasis on hospital training. Dental societies are sponsoring hospital dentistry workshops in cooperation with hospital associations. More internships and residencies will become available. Qualifications for hospital staff membership will be more clearly defined and only certain dentists will utilize the hospitals.

I believe that medical care insurance in the United States will eventually be ex-



tended to cover the entire population. The dental profession may try to have its services included, specifically those which are rendered in the hospital. Undoubtedly, hospital capacity will be strained to the limit. And though the near-term prospect for hospital dentistry seems discouraging, insurance programs will eventually cover most dental procedures performed in the hospital. In the meantime, we will strive for greater efficiency and better utilization of hospital facilities for ambulatory patients. Indeed, many inpatient services can be rendered equally well on an outpatient basis. I refer to the extraction of third molars, full mouth extractions, oral rehabilitation and complicated periodontic procedures in adults. Children can likewise be treated as outpatients if they are closely observed in the immediate postoperative phase to prevent respiratory embarrassment.

The performance of dental treatment in a specially equipped suite rather than in the regular operating room could also reduce expense to the patient, particularly if these facilities are in constant use. Indeed, a completely equipped operating room is unnecessary for most dental procedures.

Further advances in premedication may also result in discovery of agents which could replace general anaesthetics for many dental purposes.

GUIDELINES

The present informal system of preparing dentists for hospital service is quite inadequate. We need definitive guidelines that spell out the minimum requirements for a dentist who desires to practise in a hospital. In future a young graduate who seeks hospital privileges will be required to have internship or specialty training qualifying him for specialty certification. Gone will be the opportunity for dentists who do not pursue the necessary training. They may have special talents to qualify for consultant positions in hospitals, but not to admit, treat and discharge patients.

SUMMARY

The future requirements for dental services rendered in the hospital are bound to increase. There will be concomitant efforts to improve the qualifications of dental applicants for hospital staff privileges, with consequent benefits for hospital dentistry and the profession as a whole. Notwithstanding the near-term economic obstacles, the future prospects of hospital dentistry are promising for dentists and their patients.

*Dr. Hooley is assistant dean and associate professor of oral surgery in the School of Dentistry and chief of the Hospital Dental Service, University of Washington, Seattle.

dentistry in the news

The Association

Committee Reconsiders Resolution on Auxiliary Duties

The CDA Auxiliary Services Committee, which held its annual meeting March 10-11, has proposed new wording for a resolution on dental auxiliaries. The resolution is couched in the following terms:

"Resolved, that it be affirmed by the Canadian Dental Association, as a fundamental principle, that it is the dentist and the dentist alone who must be responsible for the standards and quality of dental treatment received by his patients, and be it further

"Resolved, that in assuming this responsibility it is the right of a dentist, within the regulatory jurisdiction of the licensing authority by which he is licensed, to delegate to persons over whom he exerts effective supervision and control, such duties as do not require for their performance the professional knowledge and skill of the dentist, and be it further

"Resolved, that it be respectfully recommended to provincial licensing authorities to extend every effort to create such legal environment for the practice of dentistry that will make possible the effective implementation of the above principle, and be it further

"Resolved, that as a fundamental requirement for the statute and regulations under which dentistry is practised, the principle of the ultimate responsibility of the dentist be clearly and unequivocally enunciated."

Last year the Board of Governors turned back an earlier resolution on auxiliaries and directed the Auxiliary Services Committee to consult corporate members regarding this topic. This has been done. The committee, which has since been enlarged to include representatives from each corporate member, will submit the revised resolution to the Board in July.

Brief Advocates Pilot Studies on Auxiliary Services

The Canadian Dental Association has recommended that the Ad Hoc Investigating Committee on Dental Auxiliaries "proceed immediately to design, conduct and evaluate pilot studies, cost-benefit analyses and operational research programs with the aim of determining optimum combinations of auxiliary personnel and dentists for both private practice and public service in rural and remote areas as well as in more populous places." The proposal is contained in a brief submitted to the ad hoc committee in March.

It also suggested studies to determine (1) what expanded duties auxiliaries can be trained to perform in relation to their pre-training ability and education, and in relation to the time and cost necessary to train them; (2) the effect of auxiliaries on the productivity and quality of service provided by the dental team; and (3) the feasibility of integrating auxiliaries with expanded duties into the private dental office and public service considering the need to provide additional equipment, office space and administrative services for them. The brief said that the CDA cannot make recommendations about auxiliary services until studies on the extension of duties have been completed.

The ad hoc committee, headed by Mr. Justice Dalton C. Wells, was formed last

June to study all aspects of auxiliary dental services. It was set up by the former Minister of National Health and Welfare in response to a CDA proposal for an independent investigation of auxiliary dental services (1965 *Transactions*, p. 98). That recommendation was made to counter a Hall Commission proposal calling for a Dental Auxiliary Advisory Training Committee appointed by the Department of National Health and Welfare.

CDA representatives on the ad hoc committee are J. F. Reid, North Vancouver, BC; M. A. Kamienski, Scarborough, Ont.; J. G. Belanger, Montreal and C. E. Dexter, Halifax.

Canada and the Provinces

Manitoba Dental Service Premieres Pathology Slides

Twelve dentists in the Dauphin area of Manitoba are among the first to see a new display of oral pathological slides prepared by the dental service of the provincial health department. The more than 400 slides were displayed at a recent meeting of the local dental society. The purpose of the display is to provide den-

tists, especially in rural areas of Manitoba, a review of current information in oral pathology.

The slides are grouped in series and show conditions that range from common lesions to those of a more rare variety. Special unique portable display boxes were built to display the slides at dental meetings or small study groups. Fluorescent lighting behind an opaque sheet of plastic provides the illumination. Descriptions of each slide provide ready reference for the viewer.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on March 31: Government Bond Fund \$13.823; Corporate Bond Fund \$14.970; Common Stock Fund \$26.693. Total assets (market value) of the plan were \$9,989,708.50 (up from \$8,842,234.76 in February).

The following common stock portfolio purchase occurred during the preceding month: 1,000 shares United Air Lines Incorporated.

For further information please write to the Administrator of CDA-sponsored Pension and Insurance Plans, Professional and



Four Manitoba dentists appraise a new oral pathological slide display prepared by the provincial health department. They are: Regional Dental Director W. M. Sinclair, S. A. Heschuk and O. M. Heschuk, all of Dauphin, and A. H. Just of Swan River. The display was prepared for use at dental meetings or small study groups.

Industrial Pensions Ltd., 2249 Yonge St., Toronto 7, Ont.

International Items

New York Awaits FDI and ADA Meetings in October

More than 25,000 dentists from throughout the world will participate in the American Dental Association and Fédération Dentaire Internationale combined session to be held in October in New York City.

The ADA's annual session will be held October 12-16 in conjunction with the FDI meeting October 11-17.

The scientific program will open in the New York Coliseum Sunday, October 12, and continue through Thursday, October 16. About 1,000 essayists, lecturers and clinicians from throughout the world will participate. Simultaneous interpretation in English, French, German and Spanish will be used for portions of the program.

In keeping with the theme of the combined session, "Dentistry International: Converging Paths to Better Health," several international conferences are planned. Also, more than 40 groups in the dental field will meet in New York City before or during the ADA-FDI session.

No registration fee will be charged by either the ADA or FDI although there will be fees for various social and special events.

The ADA Housing Bureau will assign hotel accommodations after it receives a completed reservation form. The forms are available from the Bureau at 211 E. Chicago Ave., Chicago, Illinois 60611, USA.

Brooklyn Hospital Seeks Dentists

Applications from dentists are being accepted for two positions in the Multiphasic Health Screening Program at the Brookdale Hospital Centre, Brooklyn, New York. A chief dentist and an associate dentist (either half-time or full-time) are required for either position.

Stipend is \$20,000 full-time, \$10,000 part-time. Contact A. Norman Cranin, Director of Dental Services, Brookdale Hospital Centre, Linden Boulevard at Brookdale Plaza, Brooklyn, New York 11212, USA.

Group Practice Conference in Chicago July 10-11

The American Dental Association's Council on Dental Health has approved plans for the association's first conference on group practice. The conference will be held at ADA headquarters, Chicago, July 10-11. Topics will include the use of auxiliaries in group practice, management methods, role of specialists in group practice, corporate practice and relationship of group practices to government and unions.

Mexican Dental Congress Nov. 2-7

Canadian dentists are invited to attend the National and International Dental Congress of the Mexican Dental Association November 2-7. The meeting will be held at the Unidad de Congresos del Centro Médico del Instituto Mexicano del Seguro Social in Mexico City. Additional information may be obtained from Jorge Schwarz, Coordinator, Asociación Dental Mexicana, Sinaloa 9, Mexico 7, D.F., Mexico.

New Group for Maxillofacial Radiology Formed in Chile

The International Association of Maxillofacial Radiology has been formed with headquarters in Santiago, Chile. Among its objectives will be to promote the formation of national societies of maxillofacial radiology, and to advance education, knowledge and learning in this field. The group held its first meeting in Santiago, August 1968. For more information about the group, contact Fresia Velasco, Secretary-General, International Association of Maxillofacial Radiology, P.O. Box 2074, Santiago, Chile.

Implant Course in Paris Nov. 16-20

The International Research Centre for Implants in Dentistry has announced a five day limited attendance course on 'Implantology' November 16-20. The course, to be held at the Lariboisière Hospital, Paris, will cover the entire range of implant techniques. The enrolment fee is payable in two instalments: an immediate deposit of \$100 to reserve admission, and a further \$160 payable on arrival. Early enrolment is advisable and applications may be sent to Raphael Chérchève, 5 avenue de l'Opéra, Paris, France.

Dental Education

Educational Opportunities

ADVANCED PROGRAMS

■ Advanced programs are offered by the University of Southern California in endodontics, oral surgery, orthodontics, periodontics and prosthodontics. Applicants may pursue courses leading to a certificate or a master's degree in basic sciences, concomitant with specialty training. Programs in oral surgery, orthodontics and prosthodontics have preliminary provisional approval from the Council on Dental Education of the American Dental Association. Applications for the 1970 terms will be accepted until November 1969. Direct inquiries to H. M. Kopel, Director of Advanced Dental Education, University of Southern California School of Dentistry, University Park, Los Angeles, California 90007, USA.

■ A two year advanced certificate program in paedodontics is offered by the University of Southern California. This program has preliminary provisional approval from the ADA Council on Dental Education. The university will also accept two post-doctoral fellows for the 1970-71 academic year. Their training is directed toward the special care of handicapped and chronically ill children. Direct inquiries to H. M. Kopel, Director of Advanced Dental Education, University of

Southern California School of Dentistry, University Park, Los Angeles, California 90007, USA.

INTERNSHIP

■ University Hospital, Boston, offers a one year rotating dental internship starting July 1. For further information, write H. M. Goldman, Boston University School of Graduate Dentistry, 80 East Concord St., Boston, Massachusetts 02118, USA.

Toronto Faculty to Aid Northern Ontario Indians and Eskimos

The Faculty of Dentistry will participate in a University of Toronto project to provide health care to Indians and Eskimos in the area of Sioux Lookout, Ont. The project is directed by H. W. Bain, chief of paediatrics at the Toronto Hospital for Sick Children. A full-time dentist will be appointed with headquarters at the hospital in Sioux Lookout. Thereafter interns from the Toronto teaching hospitals are to spend one month as externs at Sioux Lookout on a rotating basis.

Economics

CDA Asks for Tax Exemption on Articulators and Impression Pastes

The Canadian Dental Association has asked Ottawa to lift the federal sales tax from articulators and impression materials and extend import duty exemption to articulators. The request was discussed when CDA President Henri Brouillet and Secretary W. G. McIntosh met the Hon. J.-P. Côté, Minister of National Revenue, March 4. Also present were H. N. B. Beach, Ottawa, and A. S. Currie of Denco, Toronto. The dental spokesmen commended the Federal Government for removing the sales tax from most items and materials used in the treatment of disease. They pointed out, however, that dental impression materials and articulators had been overlooked and urged that

these be included with other tax-exempt items.

Canadian Survey Shows 27 Per Cent Jump in Dental Insurance

Thirteen of 55 insurance companies issued dental insurance during 1967. The 55 companies are those which report their group health insurance business to the annual Survey of Voluntary Health Insurance in Canada. The survey is conducted by the Canadian Conference on Health Care of which the Canadian Dental Association is a member.

Seven of the 13 companies provided dental coverage for 10,287 persons — 3,281 employees and 7,006 dependants. Although the numbers involved are very small, this represents an increase of 27 per cent over the number of people insured during 1966.

No dental insurance on an individual basis was reported.

Manitoba Medicare May Cover 'Certain Oral Procedures'

April 1 marked the starting date for Manitoba's medical care insurance program. Physicians are included in the provincial program "until they opt out, in writing," according to Manitoba Health Minister George Johnson.

Drugs are not covered under the plan, Dr. Johnson explained, but "certain oral procedures" performed by dentists in hospitals will be covered. He did not comment on possible full coverage of dental services.

Alberta Will Join Federal Medicare July 1

Alberta has announced it will join the federal medicare scheme July 1. Saskatchewan and British Columbia already participate. Manitoba, Newfoundland and Nova Scotia joined last month. Both Manitoba and Alberta will finance the plan with family premiums averaging about \$9.80 a month. Nova Scotia will pay for

medicare by raising the sales tax from 5 per cent to 7 per cent and increasing a number of taxes on specific items.

US Service Corporations Select 'Delta Dental Plan' as Prepayment Program Name

The US National Association of Dental Service Plans has selected a nation-wide symbol and name for professionally sponsored prepayment programs. Officials said that the name 'Delta Dental Plans' will be used by member plans to identify them as non-profit professionally sponsored prepaid group dental care programs. "In time, it is hoped that the Delta Dental Plan name and symbol will earn, through a record of achievement by the plans, the recognition and acceptance that have been won in the hospital and medical care prepayment fields by Blue Cross and Blue Shield," an NADSP official said. In future NADSP will be called the Delta Dental Plans Association.



The US National Association of Dental Service Plans has developed the above symbol for Delta Dental Plans, the new nation-wide name for NADSP member groups.

Research

NRC Transfers Dental Research Support to Medical Research Council

On February 14 the Medical Research Council assumed full responsibility for the support of dental research that was formerly aided by the National Research Council of Canada. The transfer terminates nearly two years of intensive nego-

tiations by representatives of the Canadian Dental Association's Council on Research, the Association of Canadian Faculties of Dentistry, the National Research Council, the Medical Research Council and the Department of National Health and Welfare.

The MRC has been enlarged to 21 members by the addition of three dental representatives: J.-P. Lussier, Montreal, who has been appointed to the MRC executive; A. M. Hunt, Toronto; and R. V. Blackmore, Edmonton.

A Grants Committee for Dental Sciences has been formed under the chairmanship of Dr. Hunt. Its members are G. S. Beagrie, R. V. Blackmore, P. G. Del-low, J.-P. Lussier, R. W. Reed, J. D. Spouge and J. A. MacCarter.

Named as dental representatives to various other MRC selection committees are C. M. Dowse, Grants Committee for Physiology and Pharmacology; J. D. Spouge, Grants Committee for Pathology and Morphology; R. V. Blackmore, Grants Committee for Microbiology and Infectious Diseases; A. M. Hunt, Fellowships Selection Committee; and P. G. Del-low, Studentships Selection Committee.

Tests Show Liners Protect Pulp from Acidic Cement Fillings

A study at Indiana University has shown that silicate cement fillings are and remain more acidic (pH about 5.5) than previously thought and that components of the cement can penetrate considerable thicknesses of dentine.

As a result, investigators have recommended that bases of zinc oxide-eugenol or calcium hydroxide, but not copal varnishes, be used as a lining to protect the pulp from the silicate cement fillings. In vivo studies in monkey teeth, as well as examinations of extracted human teeth show that these bases stop acid leakage, yet allow fluoride to seep out from the filling to the surrounding tooth where it helps stop further decay. Although a copal varnish also was shown to protect the pulp, it should not be used because it blocks fluoride leakage. However, var-

nishes are useful with amalgam fillings because they eliminate micro-leakage which can cause sensitivity, pulpal damage and tooth discoloration.

Dental Cement Improved

Research supported by the US National Institute of Dental Research has produced a new form of EBA (o-ethoxybenzoic acid) dental cement that is stronger, easier to mix, and flows more freely into crevices and undercuts in crowns and teeth than other ZOE (zinc oxide-eugenol) cements.

When EBA cement was reinforced with aluminum oxide instead of the less rigid fused quartz, comprehensive strength increased to 15,000 psi as compared to approximately 3,000 psi for conventional ZOE cements and 11,000 psi for EBA reinforced with the quartz.

The investigators prepared several variations of EBA cement and obtained the best physical properties when it contained 30 per cent by weight of tabular aluminum oxide. In addition to cementing of crowns and bridges, the new material tested well as a base for deep cavities whereas the ordinary ZOE bases fractured in similar tests.

Another potential use for the aluminum oxide mixture is to make a non-hardening, yet durable, temporary crown-and-bridge cement. The dentist could remove this easily to examine a tooth's reaction to treatment.

At least one company is making the new cement and several others have expressed an interest in the product.

Forsythe Scientists Demonstrate Significance of Insoluble Dextran in Dental Plaque

All bacteria known to cause decay on the smooth surfaces of teeth are plaque-formers and also secrete complex polysaccharides (dextran and levan) which they derive chiefly from sucrose or table sugar. However, other bacteria synthesize these polysaccharides but do not form plaque.

Now, studies at Boston's Forsyth Den-

tal Centre show that only large molecules of dextran and levan with molecular weights too high to be soluble have the gumminess that makes plaque adhere to smooth surfaces. Many bacteria make only smaller, lighter varieties of dextran.

Past experiments have shown that adding the enzyme, dextranase, to the culture medium containing strains of streptococci which cause decay in animals prevents the formation of plaque, not by harming the bacteria, but by breaking large insoluble dextran molecules into shorter, soluble fragments. However, dextranase has no effect on levan molecules. The investigators think that certain molecules (glucosyl acceptors), by competing with dextran-forming enzyme (dextran-sucrase), inhibit formation of the large insoluble dextrans. One of the best of these acceptors is dextran of low molecular weight.

Eventually, it may be possible either to add competitive molecules to the diet to prevent plaque, or to dissolve the sticky basis of plaque with dextranase, and thus provide a new way to prevent smooth surface decay.

Emotional Problems of TMJ Patients

Relief from excruciating facial pain through improved diagnosis and treatment is the aim of new research in Chicago.

Because their earlier studies implicated emotional problems in many patients, two dentists and a psychologist at the University of Illinois Medical Centre will test their theory that tension-relieving oral habits related to emotional problems can lead to the severe, yet difficult-to-diagnose facial pains of temporomandibular joint (TMJ) dysfunction.

While some of the patients could be classified as neurotic, psychological tests showed that most were stress-reactors, like ulcer and obese patients. Under emotional stress, some TMJ patients clench or grind their teeth or chew on pencils or other hard objects. The resultant strain on their masticatory muscles can cause muscle spasms, one of the first symptoms

of TMJ dysfunction. The influence of muscle strain became further evident when the investigators found that 'normal' volunteers as well as TMJ patients develop similar pain when they bite hard for as long as they can on a device with a weight attached to it.

The investigators theorize that muscle spasms can displace the jaw, allowing teeth to shift. This displacement could interfere with chewing and derange the joint which would ultimately be vulnerable to degenerative disease.

Since appropriate treatment depends on determining the cause of pain, the investigators plan extensive clinical, physiological and psychological examinations to aid in diagnosis. Treatment will include counselling on the nature of the problem and, if needed, more general psychological therapy.

Topical Fluoride Treatments Improved

Scientists at Boston's Forsyth Dental Centre report that topical applications of fluoride are more effective if enamel is pretreated. More fluoride is incorporated into enamel by topical application if the teeth are first treated for one minute with dilute phosphoric acid or with a solution of an aluminum or titanium salt ($\text{Al}(\text{NO}_3)_3$ or TiCl_4). These pretreatments may increase protection against caries because resistance to decay apparently increases as the amount of fluoride remaining permanently bound in the tooth structure increases.

The acid appears to open pathways for fluoride to enter the tooth when it etches the enamel surface. Only salts which contain a polyvalent metal that complexes with fluoride, while simultaneously binding to the enamel apatite crystals, bring about this increase in fluoride retained by the enamel. Salts of metals that do not perform both functions at the same time are not effective.

In the Forsyth studies, a three minute local application of 1.2 per cent acidulated fluoride solution raised fluoride levels in the outermost layer of enamel from 400 to 800 ppm. When a cotton pellet

soaked in 0.01M phosphoric acid was placed on the tooth for one minute before the fluoride application, the fluoride level increased to some 850-1,100 ppm. These figures doubled or tripled when a 0.05M solution of the acid was used. Pretreatment for one minute with a 0.05M solution of aluminum nitrate raised the figure to 3,700 ppm, while a 0.05M solution of titanium chloride raised the fluoride level even higher.

Fluorides May Reverse Caries

Evidence that fluorides can reverse the dental caries process and may even heal incipient caries was described at the recent session of the International Association for Dental Research. IADR held its 47th annual session to Houston, Texas, March 20-23. Captain Seymour Hoffman of the Naval Dental Research Institute at Great Lakes, Illinois, described a study which used a scanning electron microscope. Photographs taken with the microscope confirmed the concept that topical fluorides can "halt and heal" early caries. A possible potential for topical fluorides to heal early caries was illustrated by photographs showing repair of previously acid-etched enamel surfaces, he added. In another report on fluorides, S. B. Heifetz, San Francisco, reported that children residing in fluoride areas who were treated with topical fluorides experienced 21 per cent less caries than children who did not receive the topical applications.

Other research advances reported were:

Three enzymes — pronase, hyaluronidase and collagenase — which delayed root resorption in transplanted monkey teeth;

Use of a pulsating water jet device combined with effective toothbrushing which may reduce the danger of periodontic tissue inflammation;

Plastic reinforced cements which have been used successfully to treat battle-front soldiers with temporary restorations that last for several months; and

A one minute blood glucose test to aid in the early detection of diabetes which dentists can successfully perform.

Fluoridation

Article Charges Fluoridation Harmful to Kidney Patients

An article, appearing in the March issue of *Saturday Review*, charges the use of fluoridated water in haemodialysis machines cripples and may even kill kidney patients. The article also suggests that drinking fluoridated water may be dangerous for any person with kidney disorders. The US National Institute of Arthritis and Metabolic Diseases has commented that fluorides in water used for haemodialysis can be harmful but so can other trace elements naturally present in water supplies. The Institute has pointed out that haemodialysis units now routinely use deionized water to remove not just fluoride from the water, but all other minerals as well. Both the US Public Health Service and the Arthritis Institute emphasize that the type of water used in haemodialysis has no relation to the ingestion of fluoridated water by anyone.

South Dakota Enacts State-Wide Fluoridation Law

On March 25, Governor Frank Farrar of South Dakota signed into law a state-wide fluoridation bill. South Dakota is now the sixth American state to have a fluoridation law; others are Connecticut, Michigan, Minnesota, Delaware and Illinois.

Public Health

Dr. Sinclair Returns to Manitoba Public Health Post

W. M. Sinclair, former regional dental director in northern Manitoba with headquarters in Dauphin, recently returned to this post after a five year absence.

Educated in England, Dr. Sinclair served with the Royal Canadian Dental Corps until 1960. On retirement from the



W. M. Sinclair

army, he joined the Manitoba health department as regional dental director in Dauphin. In 1963, he was obliged to take extended leave due to ill health. For the past five years Dr. Sinclair resided in New Zealand where he studied medical and dental services under the New Zealand Social Security Plan.

Awards and Honours

H. Tregobov, Winnipeg, was recently presented with a plaque by the Manitoba Dental Association. The presentation commemorates Dr. Tregobov's "service to the association above and beyond the call of duty."

Anders Bennick, a graduate of the Royal Dental College of Copenhagen, Denmark, who received the diploma in periodontics and the MScD degree from the Faculty of Dentistry, University of Toronto, has been awarded a Medical Research Council Centennial Fellowship to study at the Institute for Molecular Pharmacology at the University of Cambridge, England. The award will be tenable in the fall when Dr. Bennick expects to receive the PhD degree in the Department of Biochemistry, University of Toronto. The MRC Centennial Fellowship is one of the highest awards given to research workers in Canada.

Gordon Thompson, currently enrolled in a PhD program at the School of Hygiene

and an MScD holder from the Faculty of Dentistry, University of Toronto, has been awarded a research position in epidemiology and biostatistics by the Department of National Health and Welfare, Ottawa. This competitive award is granted to persons of high academic achievement who will apply statistical methods to help research workers in medical and dental schools.

Deaths

Atkey, Richmond Henry. 83. Toronto. Royal College of Dental Surgeons of Ontario, 1915. 5-3-69. Survived by Gladys (wife); Richmond Ivor (son); and Mrs. C. E. Cross and Mrs. N. H. Saunders (sisters).

Austin, James E. 50. Blenheim, Ont. University of Toronto, 1951. 8-3-69. Survived by Rebecca (wife); James and Christopher (sons); Margaret Ann (daughter); Mrs. Jennett Austin (mother); and Dr. Robert and John W. (brothers).

Bradshaw, Chester Edward. 67. Nelson, BC. North Pacific College, University of Oregon, 1927. 13-3-69. Survived by Rose (wife); David (son); Leigh and Mrs. Alan Acheson (daughters); Gordon, Arthur and Walter (brothers); and four grandchildren.

Hayes, William Norbet. Peterborough, Ont. Royal College of Dental Surgeons of Ontario, 1919. 27-12-68.

Richardson, William Randall. 71. Woodbridge, Ont. Royal College of Dental Surgeons of Ontario, 1920. 17-3-69. Survived by Helen (wife); William (son); Robert and David Graham (stepsons); 11 grandchildren; and one great-grandson.

Verret, Sébastien. 63. Loretteville, Qué. Université de Montréal, 1930. 26-2-69.

White, James Gardiner. 76. Ridgeway, Ont. Royal College of Dental Surgeons of Ontario, 1917. 15-3-69. Survived by Grace (wife); Allan and Dr. Bruce (sons); Russell and George (brothers); Tilly (sister); and eight grandchildren.

les actualités dentaires

L'Association

Neuf membres corporatifs fixent leurs subventions à l'ADC

Les subventions à l'ADC pour l'année 1969 de l'Association dentaire de Terre-Neuve, l'Association dentaire de la Nouvelle-Ecosse, la Société dentaire du Nouveau-Brunswick et le Collège des chirurgiens-dentistes de la Colombie britannique ont été fixées à \$65 par dentiste inscrit. L'Association dentaire de l'Alberta accordera une allocation de \$60 par personne. Le Collège des chirurgiens-dentistes de la Saskatchewan calculera sa subvention pour 1969 sur la base de \$55 par dentiste inscrit. La Société dentaire de l'Île du Prince-Edouard et l'Association dentaire du Manitoba ont fixé leurs subventions à \$50 et la subvention de l'Association dentaire de l'Ontario reste à \$40 par dentiste inscrit pour une autre année. Au mois de décembre dernier, l'Association dentaire de l'Ontario avait voté de baisser sa subvention à \$30 par personne en 1970 mais elle avait aussi adopté une résolution de reconsidérer cette décision après la Conférence sur les buts et les objectifs l'ADC du 24 et 25 février.

Etudes d'essai sur les services auxiliaires

L'Association dentaire canadienne a recommandé que le Comité d'enquête ad-hoc sur les auxiliaires dentaires "se mette immédiatement à préparer, diriger et évaluer (1) les études d'essai, (2) les frais et les avantages et (3) le fonctionne-

ment, afin de préciser les meilleures combinaisons du personnel auxiliaire et des dentistes pour le cabinet dentaire privé et pour le service public, dans les régions rurales et les endroits plus peuplés". Cette proposition fait partie du dossier soumis au Comité ad hoc au mois de mars.

Le dossier a également proposé des études afin de déterminer (1) les fonctions élargies que les auxiliaires peuvent remplir avant leur formation par rapport à la durée et aux frais de leur formation; (2) l'effet qu'auraient les auxiliaires sur le rendement et la qualité des services rendus par l'équipe dentaire; et (3) la possibilité d'intégrer les auxiliaires avec des fonctions élargies dans le cabinet dentaire privé et le service public étant donné le besoin de leur fournir des installations supplémentaires, de la place au bureau ainsi que des services administratifs. Le dossier dit que l'ADC ne peut pas faire de recommandations sur les services auxiliaires avant de compléter les études sur l'élargissement des fonctions.

Le Comité ad hoc, dirigé par le juge Dalton C. Wells, a été formé au mois de juin dernier afin d'étudier tous les aspects des services auxiliaires. Il a été établi par l'ancien Ministre de la Santé nationale et du Bien-être social et fait suite à la proposition de l'ADC qui recommandait une enquête indépendante des services auxiliaires (*Délibérations* 1965, p. 74). Cette recommandation fut faite à l'encontre de la proposition de la Commission Hall qui exigeait un comité consultatif qui aurait été nommé par le Ministère de la Santé nationale et du Bien-être social.

Les représentants de l'ADC au Comité

ad hoc sont: J. F. Reid, Vancouver Nord, CB; M. A. Kamienski, Scarborough, Ont.; J. G. Bélanger, Montréal et C. E. Dexter, Halifax.

Nouveaux termes de la résolution sur les fonctions des auxiliaires

Le Comité des services auxiliaires de l'ADC a proposé une nouvelle rédaction d'une résolution sur les auxiliaires dentaires à sa réunion annuelle du 10 et 11 mars. La résolution est ainsi conçue:

"Il est résolu que l'Association dentaire canadienne affirme, comme principe fondamental, que seul le dentiste doit être responsable du degré d'excellence et de la qualité des soins dentaires reçus par ses patients, et en outre

"Il est résolu qu'en assumant cette responsabilité le dentiste a le droit, dans la juridiction du bureau provincial qui a émis la licence, de déléguer aux individus sur lesquels il exerce une surveillance et un contrôle efficaces, les fonctions qui ne demandent pas les connaissances professionnelles et l'habileté du dentiste, et en outre

"Il est résolu qu'une recommandation soit faite aux bureaux provinciaux de licence de s'efforcer de créer un milieu légal pour l'exercice de l'art dentaire qui permettra l'exécution efficace du principe mentionné ci-dessus, et en outre

"Il est résolu que le principe de la responsabilité définitive du dentiste soit énoncé clairement et sans équivoque comme condition fondamentale des règlements qui régissent l'exercice de l'art dentaire".

L'année dernière, le Conseil des Gouverneurs avait refusé une première résolution sur les auxiliaires et avait chargé le Comité des services auxiliaires de consulter les membres corporatifs à ce sujet. Cela a été fait. Le comité, qui a été agrandi par les représentants des membres

corporatifs, soumettra la nouvelle résolution au Conseil en juillet.

Le Canada

Un avertissement sur la pentazocine

Le Ministère de la Santé nationale et du Bien-être social a lancé un avertissement au sujet de la pentazocine (Talwin, Laboratoires Winthrop). La pentazocine est un analgésique puissant qui n'est pas classé comme stupéfiant et qui peut démontrer les caractéristiques de la toxicomanie lorsque les malades ont déjà fait abus des drogues. Des symptômes de sevrage sont souvent apparus à la suite du retrait subit du médicament.

L'emploi de la pentazocine pour prévenir la douleur plutôt que pour la soulager devrait être évité, puisqu'une tolérance pourrait se révéler dans le cas de doses répétées pendant une longue période. Les dentistes qui remarqueraient une réaction indésirable avec la pentazocine sont priés d'en avvertir le Programme des effets nocifs des drogues, Direction des aliments et drogues, Ministère de la Santé nationale et du Bien-être social, Parc Tunney, Ottawa 3, Ont.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association dentaire canadienne étaient les suivantes au 31 mars: fonds d'obligations gouvernementales \$13.823; fonds d'obligations corporatives \$14.970; fonds d'actions ordinaires \$26.693. L'avoir total (valeur marchande) du régime se montait à \$9,989,708.50 (au lieu de \$8,842,234.76 au mois de février).

Au cours du mois précédent, les achats d'actions ordinaires ont été les suivantes: 1,000 actions de United Air Lines Incorporated.

Pour de plus amples renseignements, veuillez écrire à: The Administrator of CDA-sponsored Pension and Insurance Plans, Professional and Industrial Pensions Ltd., 2249 Yonge St., Toronto 7, Ont.

Chronique internationale

Conférence sur les cabinets groupés à Chicago les 10 et 11 juillet

Le Conseil d'hygiène dentaire de l'Association dentaire américaine a approuvé le projet d'une première conférence sur les cabinets groupés qui aura lieu au secrétariat de l'ADA, à Chicago, les 10 et 11 juillet. On discutera de l'emploi des auxiliaires en cabinets groupés, des méthodes d'administration, du rôle des spécialistes en cabinets groupés, du cabinet organisé et des rapports des cabinets groupés avec le gouvernement et les syndicats.

Cours implantaire de Lariboisière

Le Cours implantaire de Lariboisière aura lieu à Paris, à l'Hôpital Lariboisière du 16 au 20 novembre 1969. Ce cours exposera toutes les méthodes et techniques valables, actuellement utilisées en implantologie. Il durera cinq jours, dans un service hospitalier de 9 h. du matin à 7 h. du soir. Les déjeuners sont pris en commun.

Toutes les méthodes implantaires, aussi bien juxta-osseuses qu'endo-osseuses y sont enseignées.

En raison des nombreuses demandes reçues et du fait du nombre limité de participants, nous vous demandons de nous adresser la somme de 500 francs (\$100) afin de vous réserver une place, le complément à verser le jour de l'ouverture du cours étant de 700 francs pour les anciens, et 800 francs (\$160) pour les nouveaux.

Pour tous renseignements complémentaires, s'adresser: Dr R. Cherchève, 5 avenue de l'Opéra, Paris 1er, France.

L'économie

L'ADC demande au gouvernement de ne pas taxer les articulateurs et les pâtes à empreinte

L'Association dentaire canadienne a demandé à Ottawa de lever la taxe de vente fédérale sur les articulateurs et les pâtes

à empreinte et d'accorder l'exemption du droit d'entrée aux articulateurs. Le Président de l'ADC, le Dr Henri Brouillet et le Secrétaire, le Dr W. G. McIntosh, ont discuté la requête lorsqu'ils ont rencontré l'Hon. J.-P. Côté, Ministre du Revenu national, le 4 mars. Le Dr H. N. B. Beach, d'Ottawa, et M. A. S. Currie de la compagnie Denco de Toronto, étaient également présents.

Le porte-parole de notre profession a approuvé le gouvernement fédéral d'avoir supprimé la taxe de vente sur la majeure partie des articles qui servent au traitement des maladies de la bouche. Toutefois, il a fait remarquer qu'on a oublié les matériaux pour empreintes et les articulateurs et il a insisté afin que ceux-ci aient droit à la même exemption.

Une étude canadienne révèle un accroissement de 27 pour cent des assurances dentaires

Treize compagnies d'assurance sur 55 ont émis des assurances dentaires en 1967. Les 55 compagnies sont celles qui rendent compte de leurs chiffres d'affaires en assurance-santé groupe à l'Analyse annuelle de l'assurance-santé volontaire au Canada. L'étude est menée par la Conférence canadienne sur les soins de la santé dont fait partie l'Association dentaire canadienne.

Sept compagnies sur 13 ont fourni des prestations dentaires à 10,287 personnes—3,281 employés et 7,000 charges de famille. Quoique le nombre de personnes est très petit, il représente quand même un accroissement de 27 pour cent sur le nombre d'assurés en 1966.

Aucune assurance dentaire a été vendue à un particulier.

L'assurance-maladie du Manitoba comprendra "certaines interventions buccales"

C'est le 1^{er} avril qu'a débuté le régime d'assurance-maladie du Manitoba. Selon le Ministre de la santé du Manitoba, le Dr George Johnson, le programme provincial s'appliquera à tous les médecins "jusqu'à ce qu'ils optent de ne pas participer en nous le faisant savoir par écrit".

Le docteur Johnson a expliqué que le régime ne comprend pas les médicaments, mais que "certaines interventions buccales" exécutées par des dentistes dans les hôpitaux seront incluses. Il n'a fait aucune observation sur la possibilité de bénéfices pour les soins dentaires complets.

Régime dentaire pour les joueurs de baseball

D'après un communiqué de l'Association dentaire américaine, les joueurs de baseball des ligues majeures auront un régime de soins dentaires. Le régime fait partie du contrat passé entre l'Association des joueurs des ligues majeures et les propriétaires des clubs. Ceux-ci augmenteront les contributions au plan de pension, ce qui permettra de fournir de meilleures prestations de santé aux joueurs. Les Expos de Montréal ont fait leurs débuts le 8 avril.

La recherche

Les recherches dentaires passent au Conseil des recherches médicales

Le Conseil des recherches médicales a assumé, à partir du 14 février, la responsabilité complète des recherches dentaires qui étaient maintenues autrefois par le Conseil national de recherches du Canada. Le transfert met fin à près de deux ans de vives négociations entre les représentants du Conseil des recherches de l'Association dentaire canadienne, l'Association des facultés dentaires du Canada, le Conseil national de recherches, le Conseil des recherches médicales et le Ministère de la Santé nationale et du Bien-être social.

Le CRM a été élargi à 21 membres par l'adjonction de trois délégués dentaires: J.-P. Lussier, de Montréal, qui a été nommé au bureau de direction; A. M. Hunt, de Toronto; et R. V. Blackmore, d'Edmonton.

Le Comité de subventions pour les sciences dentaires sera présidé par le docteur Hunt. Les membres du Comité sont G. S. Beagrie, R. V. Blackmore, P. G. Del-

low, J.-P. Lussier, R. W. Reed, J. D. Spouge et J. A. MacCarter.

Les représentants dentaires aux autres comités de sélection du CRM sont: C. M. Dowse, comité de subventions pour la physiologie et la pharmacologie; J. D. Spouge, comité de subventions pour la pathologie et la morphologie; R. V. Blackmore, comité de subventions pour la microbiologie et les maladies contagieuses; A. M. Hunt, comité de sélection des bourses universitaires; et P. G. Dellow, comité de sélection des bourses d'études.

Amélioration des traitements topiques de fluor

Les chercheurs du Forsyth Dental Centre à Boston ont rapporté que les applications topiques de fluor sont plus efficaces lorsque l'émail est traité auparavant. Une plus grande quantité de fluor est incorporée dans l'émail lorsque les dents sont traitées d'abord, pendant une minute, par l'acide phosphorique dilué ou par une solution d'un sel d'aluminium ou de titane ($\text{Al}(\text{NO}_3)_3$ ou TiCl_4). Ces traitements préliminaires peuvent augmenter la protection contre la carie parce que la résistance à la carie augmente apparemment lorsqu'une plus grande quantité de fluor reste attachée d'une façon permanente à la structure de la dent.

L'acide semble ouvrir un chemin par où entre le fluor lorsque la surface de l'émail a été traitée. Seuls les sels qui contiennent un métal polyvalent qui forme un complexe avec le fluor, et qui s'attache simultanément aux cristaux d'apatite de l'émail, provoquent cette multiplication de la rétention du fluor par l'émail. Les sels des métaux qui n'accomplissent pas les deux fonctions en même temps ne sont pas efficaces.

A Boston, une application locale pendant trois minutes d'une solution de 1.2 pour cent de fluorure acidulé a élevé le niveau de fluor dans les couches extérieures de l'émail de 400 à 800 ppm. Lorsqu'on a placé une boulette de coton trempée dans 0.01 M d'acide phosphorique sur la dent pendant une minute avant l'application du fluor, le niveau de fluor a monté jusqu'à 850 - 1,100 ppm. Ces chiffres ont

doublé ou triplé lorsqu'on a employé une solution de 0.05 M de l'acide. Le traitement préliminaire pendant une minute avec une solution de 0.05 M de nitrate d'aluminium a élevé le chiffre à 3,700 ppm, tandis qu'une solution de 0.05 M de chlorure de titane causait une élévation encore plus grande du niveau de fluor.

Amélioration d'un ciment dentaire

Un projet de recherche entrepris par l'Institut national des recherches dentaires des Etats-Unis a produit une nouvelle forme de ciment à l'acide o-ethoxybenzoïque ("EBA"), qui est plus solide, plus facile à mélanger, et qui coule plus librement dans les crevasses et les parties en retrait des couronnes et des dents, que d'autres ciments à l'eugénate.

Lorsque le ciment "EBA" est renforcé par l'oxyde d'aluminium au lieu du quartz fondu qui est moins rigide, la résistance d'ensemble monte à 15,000 livres par pouce carré en comparaison de 3,000 livres par pouce carré pour les ciments à l'eugénate normaux et 11,000 livres par pouce carré pour le ciment renforcé par le quartz.

Les investigateurs ont préparé plusieurs variations du ciment "EBA" et obtenu les meilleures propriétés physiques lorsque l'oxyde d'aluminium formait 30 pour cent du poids. En plus de cimenter les couronnes et les bridges, le nouveau produit a également donné de bons résultats lorsqu'il a été placé comme fond de cavité alors que l'eugénate ordinaire se brisait durant les mêmes essais.

Le mélange d'oxyde d'aluminium permettra peut-être de fabriquer un ciment

provisoire pour les couronnes et les ponts qui ne durcirait pas, mais qui serait quand même résistant. Le dentiste pourrait l'enlever facilement afin de vérifier la réaction de la dent au traitement.

Une compagnie fabrique déjà le nouveau ciment et plusieurs autres firmes semblent s'y intéresser.

La fluoration

Un article accuse l'eau fluorée d'être nuisible à ceux qui souffrent des maladies des reins

Un article qui a paru dans le numéro du mois de mars du *Saturday Review* proclame que l'emploi de l'eau fluorée dans les machines d'hémodyalise peut rendre un malade des reins infirme et peut même le tuer. Cet article suggère également qu'une personne qui souffre d'une affection des reins court un danger lorsqu'elle boit de l'eau fluorée. L'Institut national de l'arthrite et des maladies métaboliques des Etats-Unis a remarqué que le fluor dans l'eau utilisée pour l'hémodyalise peut être nuisible tout comme d'autres corps simples qui existent normalement dans l'eau potable.

L'Institut a fait ressortir le fait que les machines d'hémodyalise emploient maintenant couramment de l'eau déionisée afin d'enlever non seulement le fluor mais également tous les autres minéraux. Le Service de la santé publique des E.-U. et l'Institut de l'arthrite soulignent tous les deux que l'eau employée en hémodyalise n'a donc absolument aucun rapport à l'ingestion d'eau fluorée par le public.

pathological dentinogenesis

Zdenek Mézl, MD, DDS, Montreal, Que.

Abnormal dentine formation can occur in teeth of normal form. The process is exemplified by (1) regeneration of dentine without the benefit of capping agents or (2) dentine formation on the outer surface of enamel, (3) on cementum, (4) on carious dentine outside the pulp chamber, (5) in the wall of a pulp abscess, and (6) in spontaneous healing of pulpitis. The first four examples indicate that the initiation of dentine formation does not depend on medicaments alone. This observation may stimulate further research into the replacement of lost tooth tissue by dentine rather than by artificial substitutes. The last two examples suggest that an infected pulp may sometimes heal and that the healing process begins in the pyogenic membrane of a pulp abscess. The removal, through pulpectomy or pulpotomy, of a pyogenic membrane in which healing is already in progress is therefore unwarranted.

Dentinogenesis is pathological when dentine with normal structure is formed in abnormal places, when abnormal dentine is formed in normal places, or when abnormal dentine is formed in abnormal places. Pathological dentinogenesis has important implications for endodontic

La formation d'une dentine anormale peut se produire dans des dents qui présentent une morphologie normale. Ce processus est démontré par (1) la régénération de la dentine sans l'avantage d'agents de coiffage ou (2) la formation de la dentine sur la surface extérieure de l'émail, (3) sur le ciment, (4) sur la dentine cariée en dehors de la chambre pulpaire, (5) dans le mur d'un abcès pulpaire, et (6) durant la guérison spontanée de la pulpite. Les quatre premiers exemples indiquent que l'initiation de la formation de la dentine ne dépend pas seulement des médicaments. Cette observation peut encourager de nouveaux travaux de recherche qui étudieraient le remplacement des tissus dentaires perdus par la dentine plutôt que par des éléments artificiels. Les deux derniers exemples suggèrent qu'une pulpe infectée peut parfois guérir et que le processus de guérison a son origine dans la membrane pyogène de l'abcès pulpaire. L'ablation par la pulpectomie ou la pulpotomie de la membrane pyogène dans laquelle la guérison est déjà en cours est par conséquent injustifiée.

treatment. It may also affect future trends in restorative dentistry.

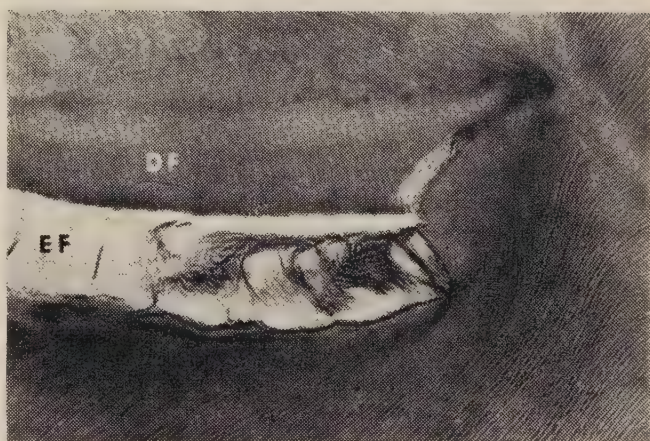
Pathological dentinogenesis occurs (1) in teeth of normal form; (2) in teeth with a developmental anomaly; (3) in several teeth in generalized diseases such as opalescent dentine, dentinal dysplasia and

FIGURE 1 Part of the cusp of a bicuspid. L, limit between dentine formed before the injury (D1) and after the injury (D2). F, fragment. Haematoxylin-eosin, objective 2.5 x Leitz.



1

FIGURE 2 Higher magnification of the fragment embedded in the dentine shown in Figure 1. DF, dentine of the fragment. EF, enamel of the fragment. Haematoxylin-eosin, objective 10 x Leitz.



2

FIGURE 3 Deciduous upper molar. RC, beginning of the root canal. BF, bifurcation with periodontic tissues and evidence of resorption. B, calcified barrier, mainly dentine. R, limit of resorption of the old dentine (D). C, cementum. ND, new dentine. Haematoxylin-eosin, objective 2.5 x Leitz.

FIGURE 4 Higher magnification of a portion of Figure 3. C, cementum. ND, new dentine. PD, predentine. O, odontoblasts. Haematoxylin-eosin, objective 10 x Leitz.



3



4

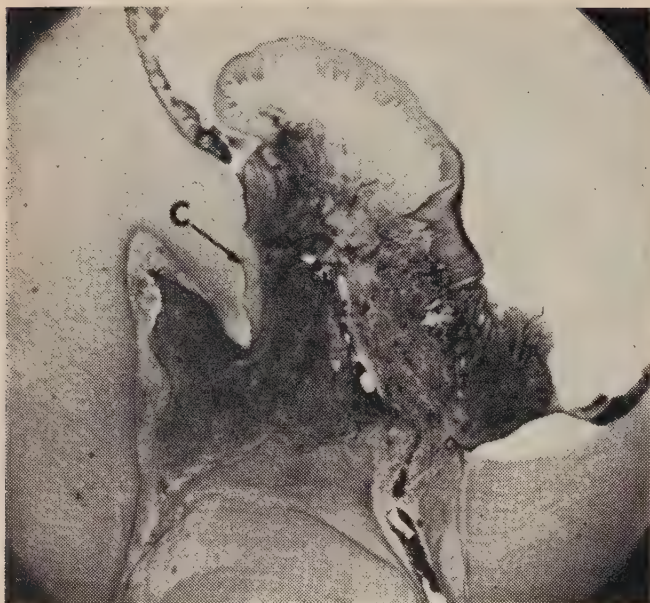


FIGURE 5 Pulp polyp covered with epithelium. C, wall of the cavity. Haematoxylin-eosin, x 7.5.

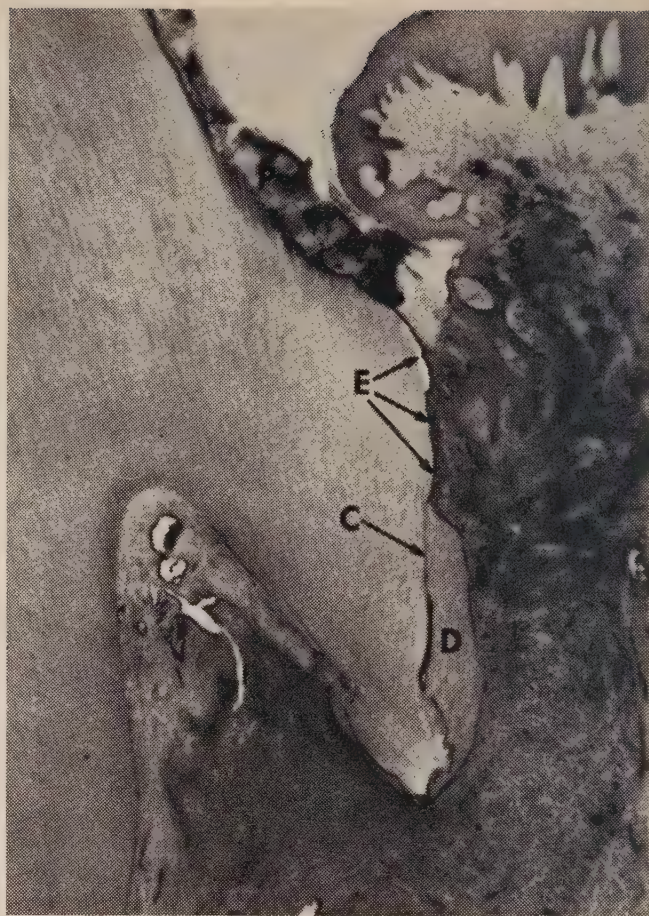


FIGURE 6 Part of the polyp and cavity wall shown in Figure 5. C, wall of the cavity. P, bacterial plaque. E, epithelial attachment. D, new dentine. Haematoxylin-eosin, objective 1 x Leitz.

others; (4) in odontomes (principally hamartomas); and (5) in a true neoplasm such as ameloblastic odontome. It is sometimes difficult to distinguish between the first three categories enumerated here.

This article deals with pathological dentine formation in teeth of normal form.

MATERIAL AND METHOD

The cases described here were selected from the histopathological collection of the Department of Oral Biology, Faculty of Dental Surgery, Université de Montréal. Since nothing conspicuous was visible to the naked eye, the teeth were not identified and case histories are not available.

The teeth were embedded in celloidin and sectioned serially. Most sections were stained with haematoxylin-eosin or haematoxylin-phloxin-safranin.

ABNORMAL DENTINE FORMATION IN TEETH OF NORMAL FORM

Certain forms of abnormal dentine formation are well known and are only briefly mentioned here; other more unusual cases are discussed in greater detail.

1. *Secondary Dentine and Interglobular Dentine.* — These tissues lie on the borderline between physiological and pathological phenomena.
2. *Reparative, Irregular or Adventitious Secondary Dentine.* — This tissue arises in response to irritation.
3. *Denticles, Pulp Nodules or Pulp Stones.*
4. *Dentine Formed on the Surface of a Pulp Wound under Appropriate Capping Agents.* — Under favourable conditions a pulp that is capped or treated by pulpotomy can form a layer of new dentine — either as regular or irregular tubular dentine, atubular dentine or cellular dentine — or a barrier where fragments of old dentine are fused by new dentine.
5. *Dentine Regeneration without Capping Agents.* — This has been demonstrated in dogs' teeth.¹⁻³ When large portions of

dentine are removed and the exposed pulp is covered with a mucoperiosteal flap, the dentine wall regenerates in its entire thickness.

The regeneration begins with atubular dentine, sometimes with cellular dentine or osteodentine, which is covered with regular tubular dentine. Large canals with new collateral blood vessels penetrate the regenerated dentine wall. When a large part of Hertwig's sheath (with adjacent dentine) is experimentally removed during the development of the teeth in dogs, the dentine can regenerate and the pulp can continue to grow and form new dentine.³

6. Dentine Formation on the Outer Surface of Enamel. — Dentine normally starts to form on the surface of the pulp in contact with the inner dental epithelium or with Hertwig's sheath. Enamel is then deposited on the surface of the dentine. This process may be reversed on rare occasions; dentine is then deposited on the outer surface of the enamel.

Figures 1 and 2 are from the lower bicuspid of a young person. The upper part of the crown is slightly displaced laterally. This very mild dilaceration was invisible to the naked eye because most of the crown was covered by soft tissue.

Figure 1 shows a notch and a ridge at the right side of the dentino-enamel junction. Also present in the dentine is a well marked line of Owen which differentiates dentine formed before and after the injury.

In the dentine formed after the injury there is a triangular formation composed of two parts (Figures 1 and 2); the upper part as dentine, the lower part is enamel. The form identifies it is a fragment which chipped from the periphery of the partly calcified tooth germ, rotated through 90 degrees, and penetrated deep into the soft pulp tissue which was here at the time of the injury. Later, the fragment was entirely embedded in the dentine formed after the injury. Some dentinal tubules from the old dentine circle the right side of the fragment (Figure 2). In the middle, new tubules begin on the surface of the enamel. Apparently, new odontoblasts

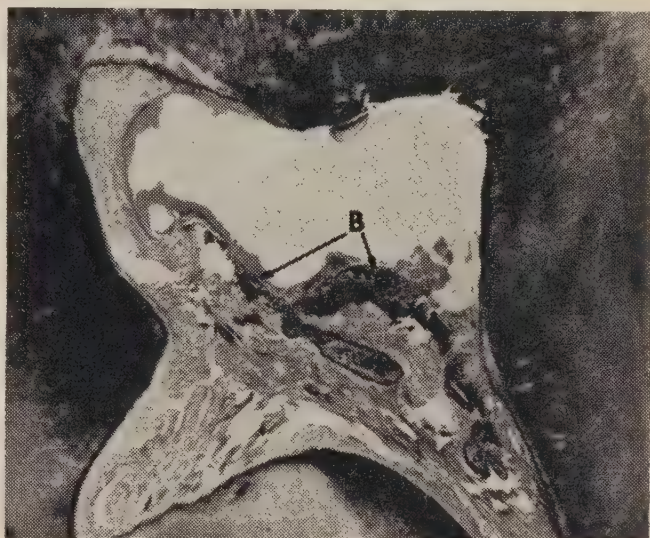


FIGURE 7 Abscess in the pulp chamber of a lower molar. B, barrier on the periphery. Alcian blue-chlorantine red, objective 1 x Leitz.

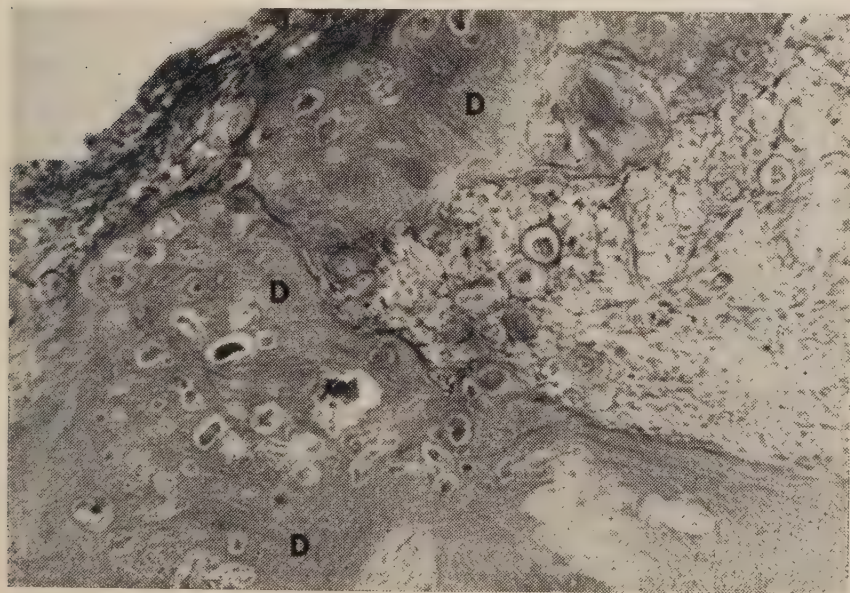


FIGURE 8 Higher magnification of the barrier shown in Figure 7. D, reparative dentine with embedded small round bodies. Haematoxylin-eosin, objective 10 x Leitz.

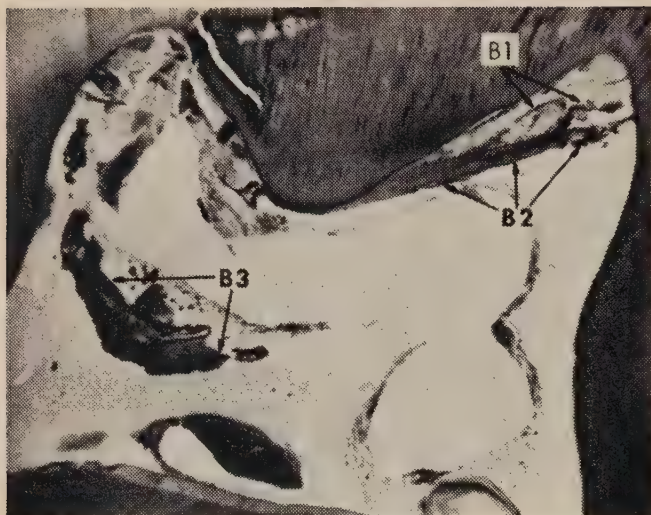


FIGURE 9 Gangrenous pulp of a molar. B1, B2, B3 are three calcified barriers. Haematoxylin-eosin, objective 1 x Leitz.

differentiated here and started to form new dentine adjacent to the ends of the enamel rods. This intimate contact suggests that the enamel may have been separated from its epithelium. That the epithelium can be readily separated from unfinished enamel has already been observed in a case of traumatic injury.⁴ The dark lines in the enamel apparently correspond to tufts or lamellae.

7. Dentine Formation on Cementum. — Cementum usually forms on the surface of the dentine. Occasionally the reverse happens as in the following case.

Figures 3 and 4 are from a deciduous upper molar in which a pulpotomy has been performed. There is a completely calcified barrier at the beginning of the root canal. Most of the canal has been considerably widened by resorption, producing walls with a scalloped line. After the resorption had ended, the dentine was covered by cellular cementum. The first part of the barrier is thus composed of cellular cementum. This is covered by dentine with dentinal tubules, a layer of predentine and a border of odontoblasts.

8. Dentine Formation on the Outer Surface of Carious Dentine outside the Pulp Chamber. — Figures 5 and 6 are from a lower molar with a pulp polyp covered with well developed epithelium. The left side of the polyp adheres to the dentine along a line which corresponds to a vertical wall of the carious cavity. The cavity has opened the pulp.

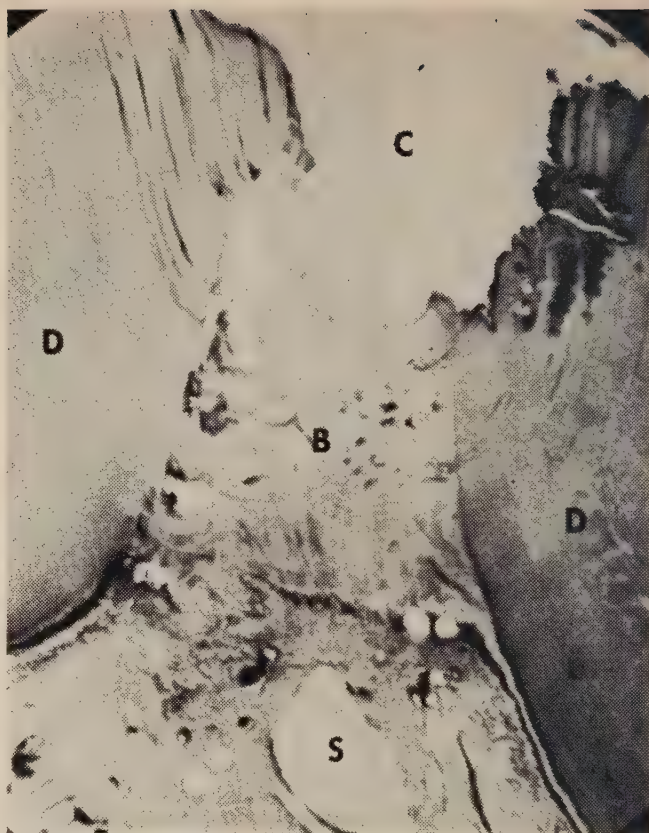


FIGURE 10 Lower molar with a carious cavity (C). B, calcified barrier in the pulp horn. D, dentine. The space (S) contained a denticle. Haematoxylin-eosin, objective 2.5 x Leitz.

Figure 6 shows the detail of the pulp horn and cavity wall. The upper part of the cavity displays bacterial plaque, infected dentinal tubules and the line of contact between the epithelium of the polyp and the cavity wall. The cavity wall below this region and down to the pulp chamber is covered with a layer of calcified material. This is an irregular dentine with irregular and fewer dentinal tubules than are present in normal dentine. Nevertheless, this layer resembles normal dentine more closely than the very irregular reparative dentine in the pulp horn. The underlying old dentine shows the usual signs of caries (confirmed with various stains and at higher magnification). The adjacent polyp consists of granulation tissue; no odontoblasts are present.

Following exposure of the pulp, pulp tissue must have proliferated outside the pulp chamber and formed new dentine in contact with the outer surface of the carious dentine of the cavity wall. This new dentine now partly fills the carious cavity.

9. Dentine Formation in the Wall of a

Pulp Abscess. — Figure 7 shows chronic pulpitis and a large abscess in the pulp chamber of a lower molar. On the periphery of the abscess is an incomplete barrier which stains like dentine.

Higher magnification (Figure 8) shows that the barrier has the fibrillar structure and few tubuli characteristic of reparative dentine.

In the reparative dentine and in the granulation tissue around the abscess are many small round formations with concentric striations. Various stains and histochemical tests were used to determine their composition but the bodies do not all stain the same way and do not give consistent specific reactions. Some are calcified, others are not. They are probably drops of decomposed necrotic organic material undergoing dystrophic calcification.^{5,6}

In many places the reparative dentine forms concentric layers around the small round formations, fusing and embedding them in a continuous mass. This suggests that the formation of reparative dentine can be initiated by decomposed material undergoing dystrophic calcification. Though ordinary denticles may be present in the pulp before there is any inflammation, all 37 cases of multiple globular foci in our collection were associated with inflammation, thereby confirming my interpretation.

Formation of a complete calcified barrier around the abscess could lead to the healing. This, however, does not happen in most of the cases. Figure 9 shows a pulp which tried repeatedly to form a calcified barrier against the invading micro-organisms and finally became gangrenous. Several more or less complete barriers featuring multiple globular foci of calcification can be seen in different parts of the pulp chamber.

10. Dentine Formation in Spontaneous Healing of Pulpitis. — Figure 10 shows a lower molar with a carious cavity. There are no signs of any previous restoration or treatment. The pulp horn is empty. Between this empty pulp horn and the remaining pulp is a complete calcified barrier, confirmed in serial sections. The upper part of the barrier is formed by an irregular material; the lower part is den-



FIGURE 11 Part of a root of a deciduous molar. RC, root canal. B, calcified barrier. The space (S) is an artefact. Haematoxylin-phloxin-safranin, objective 10 x Leitz.

tine. The adjacent pulp shows some fibrosis but no inflammation.

Figure 11 shows a part of a root of a deciduous molar. The tooth has a large carious cavity. Most of the pulp is absent. Food rests are present in the upper part of the root canal. There is no sign of any previous treatment. A complete barrier in the root separates gangrenous material from the living tissue. The barrier is formed from dentine which surrounds a few round bodies. Underneath is a young connective tissue somewhat similar to pulp tissue. The odontoblasts are not well differentiated. There is no inflammation.

These two specimens show that a pulpitis can heal spontaneously by forming a complete calcified barrier around the necrotic tissue. This is a rare occurrence, however.

DISCUSSION

Studies of dentine formation are im-

portant because they disclose new ways of treating the pulp.

Ever since Neuwirth⁷ described the first successful pulp cappings, we have known that a wound in a pulp that is not inflamed can heal. Nevertheless, capping techniques are still empirical, and some of the drugs used we would not dare to apply in a wound elsewhere. Observations Nos. 5, 6, 7 and 8 show that the formation of the dentine can be initiated by various biological factors and does not depend on medicaments alone.

An inflamed pulp is usually totally or partially removed. Observations Nos. 9 and 10 show that an infected pulp can sometimes heal and that healing begins in the pyogenic membrane of an abscess. It is therefore illogical to remove a pyogenic membrane in which the healing is already under way. Indeed, future endodontists will undoubtedly treat purulent pulpitis without pulpectomies or pulpotomies.

The time may also come when dentists will no longer remove carious tissues and replace them with artificial substitutes. Observation No. 8, where the pulp started to fill the cavity with new dentine, suggests that nature may have a better way. Consequently, we must seek new means of arresting the caries process and inducing formation of new dentine.

SUMMARY

Pathological dentinogenesis has been reviewed and certain unusual examples are described. They include regeneration of dentine without any capping agents, dentine formation on the outer surface of enamel, on the surface of cementum, on the outer surface of carious dentine outside the pulp chamber, in the wall of a pulp abscess and in spontaneous healing of pulpitis.

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If I were asked the most agreeable thing in life, I should say it is the pleasure of contrast. One cannot imagine anyone but an angel sitting with a harp in Paradise forever. The ordinary human being needs a change.—Freya Stark.

fluorides in dental practice

a review

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Dentists should provide fluoride agents for patients who do not have access to fluoridated water. They should prescribe dietary fluoride supplements for children who do not drink fluoridated water during the period of tooth development. Children of highly motivated parents should be encouraged to use a fluoride mouthwash or a self-applied fluoride gel. Fluoride prophylaxis paste, topical fluoride applications and fluoride-containing dentifrices may give additional protection. Topical applications have an additive value in fluoridated areas.

Le praticien devrait munir ceux qui n'ont pas accès à l'eau fluorée de certains agents contenant du fluorure. Il devrait prescrire des suppléments de fluorure au régime alimentaire des enfants qui ne boivent pas d'eau fluorée pendant le développement des dents. Les enfants de parents qui sont fortement motivés devraient être encouragés à employer un bain de bouche au fluorure ou un gel au fluorure qu'ils appliqueraient eux-mêmes. La pâte à prophylaxie au fluorure, les applications locales de fluorure et les dentifrices contenant du fluorure peuvent également donner une protection supplémentaire. Les applications locales ont une importance supplémentaire dans les régions déjà fluorées.

Optimum dental benefits ensue when the fluoride content of drinking water is adjusted within the range of 0.7-1.2 ppm to a level that is appropriate to the annual temperature range.¹ But many Canadians live in communities where fluoridation is not feasible or not yet accepted. Others in rural areas obtain their water from small private systems or from private wells. The dentist can aid these people with fluoride agents administered via a systemic or topical route. Although this mode of administration gives less protection than fluoridation, it offers partial caries control for patients who do not have access to a fluoridated water supply. Topical agents are also beneficial when used in children who live in fluoridated areas.²

SYSTEMIC ADMINISTRATION

Fluoride incorporated into the calcifying tooth renders enamel more resistant to caries attack if a proper amount of the element is ingested as a daily dietary supplement during the first 12 to 14 years of life. Studies in Sweden, Switzerland and North America have shown that the conscientious use of sodium fluoride tablets is effective.^{3,4} The extent and duration of this protection are not yet known. There is sufficient evidence, however, to justify the prescription of daily fluoride

supplements for children. The ingestion of these tablets or drops should begin as early as possible. Fluoride supplements for pregnant women are unwarranted, however, because their ingestion during pregnancy does not confer additional benefits.⁵

Drinking water, containing one 2.2 mg. sodium fluoride tablet to one quart water, and used in feeding formulae during the first year of life, is the best substitute for fluoridated water. This method is impractical for older children; the daily addition of sodium fluoride drops or tablets is preferable in this case. Before the dentist or paediatrician prescribes dietary fluoride supplements in any form, he must know the natural fluoride content of the family drinking water. For community water systems, he may obtain this information from the local public health authorities. Where a private well is used, the local health department can advise where and how a chemical analysis may be carried out. A suggested dosage schedule for tablets or drops is listed in Table 1.⁶ Where there are natural fluorides in the water, the dosages must be adjusted proportionally.

The use of fluoride-vitamin preparations is not encouraged because the formulation does not allow for control of individual dosages when natural fluorides are present in the drinking water.⁷ Moreover, the use of vitamin supplements is often temporarily discontinued during certain seasons of the year.

TOPICAL APPLICATION

Fluorides applied to the crown of an erupted tooth are incorporated into sur-

face enamel as a fluoro-apatite.⁸ Applications must be repeated periodically to compensate for loss of fluoride ions from the enamel into mouth fluids.⁹ Bibby¹⁰ believes that the greatest uptake of fluoride is by very young teeth. Topical applications should not be delayed beyond the third birthday. The dentist can then initiate a lifelong program of visits scheduled at regular intervals. Semi-annual topical applications are desirable during periods of tooth eruption in early childhood and adolescence, so that each tooth can be treated as soon as possible after it appears in the mouth.

The methods of topical application include prophylaxis pastes, solutions, gels, dentifrices and self-applied agents.

Prophylaxis Pastes. — Two types of stannous fluoride paste have been developed—one in an aqueous base, the other in a silicone base. The silicone base material should not be used if a fluoride solution is to be applied immediately thereafter because silicone coats the enamel and acts as a barrier against the solution. Bixler¹¹ and Peterson¹² consider stannous fluoride pastes as effective as topical application of an 8 per cent stannous fluoride solution. Horowitz and Lucye,¹³ on the other hand, obtained negative results with fluoride prophylaxis paste. Further tests with stannous fluoride, stannous zirconium hexafluoride and acidulated fluoride phosphate pastes may produce more conclusive results. But prophylaxis pastes currently in use cannot supplant topical application despite their time-saving features and convenience, especially in very young children.

TABLE 1 Recommended daily dosage of fluoride supplements according to age.

Sodium fluoride drops (1 mg.F ⁻ in 8 drops)		Sodium fluoride tablets 2.2 mg. (1 mg.F ⁻ /tablet)	
0-12 months:	2 drops	0-2 years:	use drinking water in which is dissolved 1 tablet/quart
1-4 years:	4 drops		
4-8 years:	6 drops	2-3 years:	½ tablet daily or 1 tablet every second day
8-12 years:	8 drops	Over 3 years:	1 tablet/day

Solutions. — When solutions of sodium or stannous fluoride or acidulated fluoride phosphate are applied to the crowns of the teeth for 3-5 minutes, there is a subsequent reduction in the incidence of new caries.¹⁴⁻¹⁶ The effectiveness of such treatment varies considerably.¹⁷ Some workers have even reported negative results. The different effects have no doubt been influenced by the age groups studied and hence the age of the teeth being treated. Other contributing factors may have been the caries susceptibility and the standards of oral hygiene observed by the study groups.¹⁷ Mercer and Muhler's¹⁸ claim of a significant caries reduction from agents applied for less than three minutes has not been confirmed by other workers.² For the greatest benefits, the treatments must be preceded by a thorough prophylaxis with an appropriate paste and interproximal stripping with sandpaper strips. During application of the solution it is also imperative to maintain a dry field by using compressed air and cotton rolls.¹⁹

A 2 per cent aqueous solution of sodium fluoride requires a series of four applications spaced approximately one week apart. This sequence is impractical in many dental offices. Single annual or semi-annual applications of an 8 per cent stannous fluoride solution give similar results but have a disagreeable astringent taste, may stain crown surfaces²⁰ and margins of anterior restorations, and may blanch the gingival tissues.²¹ Moreover, a fresh solution must be prepared for each treatment because stannous fluoride hydrolyzes in solution. An acidulated fluoride phosphate solution is better tolerated by the patient, does not have these disadvantages, and is effective when a single application is applied annually or semi-annually.^{17,22}

Gels. — A gel containing acidulated fluoride phosphate may be applied in pre-formed trays to the upper and lower dental arches. Mellberg²³ claimed that the *in vitro* fluoride uptake by enamel is similar when gels or aqueous solutions are used. Horowitz,²² on the other hand, found a gel less effective than a solution in the

only clinical study reported so far. Dentists should therefore await the results of further investigations before making extensive use of this material.

Dentifrices. — Tooth pastes containing stannous fluoride-calcium pyrophosphate are useful for the prevention of caries.²⁴⁻²⁶ Other investigations are now in progress to evaluate dentifrices containing acidulated fluoride phosphate and monofluorophosphate. Of the stannous fluoride dentifrices, the Council on Dental Therapeutics of the American Dental Association classifies Crest tooth paste (Procter and Gamble) as a Group A product while Cue (Colgate-Palmolive), Fact (Bristol-Myers) and Super-Stripe (Lever Bros.) tooth pastes are in Group B. (Group A consists of 'accepted' products which are listed in *Accepted Dental Remedies*. Group B consists of 'provisionally accepted' products which lack sufficient evidence to justify present classification in Group A, but for which there is reasonable evidence of usefulness and safety. Classification in these groups does not necessarily indicate that one product is better than another.)

Bixler and Muhler¹¹ have obtained appreciable reductions in caries incidence through the use of stannous fluoride prophylaxis paste, followed by a topical application of 8 per cent stannous fluoride solution, and daily brushing with a stannous fluoride dentifrice. These encouraging results await corroboration by other workers. Nevertheless, the rationale of this approach is consistent with present-day knowledge, and this combined therapy should therefore be encouraged.

Self-Applied Agents. — There are several reports about self-applied fluoride solutions. The usefulness of brushing and rinsing with solutions of sodium fluoride has been demonstrated in Sweden where these practices are carried out on a wide scale.²⁷ In Canada, Bullen et al²⁸ reduced the incidence of caries in children by means of five annual toothbrushings with an acidulated fluoride phosphate solution. Other follow-up studies conducted in

Canada and the United States have not yet been reported.

On the basis of results achieved so far, a dentist may usefully prescribe a sodium fluoride mouthwash for highly cooperative patients of school age. An 0.2 per cent solution (0.2 Gm./100 ml. water) is prescribed when the mouthwash is used once every two weeks. For daily use, an 0.05 per cent solution (0.2 Gm./400 ml. water) is prescribed. These agents are unsuitable for preschool children because of the amount that would inevitably be swallowed.

Englander²⁹ obtained a considerable reduction in caries incidence from a self-applied acidulated fluoride phosphate gel. The participants applied the material daily in moulded plastic trays. This procedure requires a high degree of cooperation from the child, however.

Self-administration is attractive in view of the scarcity of trained dental personnel. This method will gain further public health significance when improved agents are discovered.

SUMMARY

Water fluoridation is still the most effective and economical method of controlling the incidence of dental caries. Topical applications of fluoride solutions provide additional protection in fluoridated areas. Dentists can also administer or prescribe various fluoride agents for patients who do not have access to fluoridated water. Parents should be especially encouraged to provide dietary fluoride supplements for their children when fluoridated water is not available during the period of tooth development. Children of highly motivated parents should use fluoride mouthwashes or daily self-applied fluoride gel treatments. Other preventive measures include periodic prophylaxis with a fluoride prophylaxis paste, topical fluoride applications, and frequent use of a fluoride-containing dentifrice every day. The precise value of these measures is indeterminate, however.

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The little church of Notre-Dame de Bonsecours, one of Montreal's oldest, was founded in 1657 by Marguerite Bourgeoys. It shelters memorabilia left by early navigators and settlers. This venerable chapel is one of several landmarks included in a tour for ladies attending the CDA national convention in Montreal, July 9-11.



PHYSIOLOGICAL PLACEMENT OF ARTIFICIAL ANTERIOR TEETH

S. C. Robinson, DMD, Portland, Oregon

Muscle memory enables the dentist to duplicate in a denture the functional position of natural anterior teeth. The terminal position of the lower lip after producing F and V sounds establishes the position of the artificial teeth, while downward and forward movement of the mandible during articulation of these sibilants determines the vertical occlusal dimension and contributes to incisal guidance. Using maxillary and mandibular occlusal rims, the author describes a practical method for registering the incisal edge position of maxillary teeth, determining the vertical occlusal dimension and selecting the incisal guidance.

La mémoire musculaire permet au dentiste de reproduire sur une prothèse la position fonctionnelle des dents naturelles antérieures. La position finale de la lèvre inférieure, après l'émission des sons F et V, établit la position des dents artificielles, alors que le mouvement vers le bas et vers l'avant du maxillaire inférieur, pendant l'articulation de ces consonnes sibilantes, détermine la dimension occlusale verticale et contribue au placement des incisives. L'auteur décrit une méthode pratique qui permet d'enregistrer, au moyen des bords occlusaux des maxillaires supérieur et inférieur, la position du bord des incisives du maxillaire supérieur, déterminant ainsi la dimension occlusale verticale et indiquant la position des incisives.

Artificial teeth must be arranged so as to function harmoniously with adjacent structures and produce a pleasing appearance. This article outlines the steps that are necessary for attaining these objectives.

Normal pressure of the lower lip against the incisal edges of the maxillary incisors and unrestrained downward and forward mandibular excursion during speech exemplify physiological functions which influence the appearance of a lower denture.

Certain consonant sounds arise from interference placed in the path of vowel sounds.¹ This interference resides mainly in the lips and teeth. The muscular action which produces speech also develops a muscle memory.² Speech muscle memory can survive for many years following loss of the natural teeth, even if the patient wears non-functional dentures. This enables the dentist to duplicate the functional position of the natural teeth.

MAXILLARY INCISORS

F and V sounds are produced by laryngeal blasts of air forced out of the mouth past the momentary contact of the crest of the lower lip and the incisal edges of the four maxillary incisors. The air thus expelled produces the leaking valve sound of the F and V consonants.³ The incisal edges of the maxillary teeth act as the valve seat and the lower lip as the valve. To make this contact, the lower lip must travel backward and upward, starting from an open mouth position. The



FIGURE 1 Left: the lower lip is moved upward and back to produce the F sound. Right: the lower lip has touched the incisal edges of the maxillary incisors to produce a leaking valve for F and V consonants.

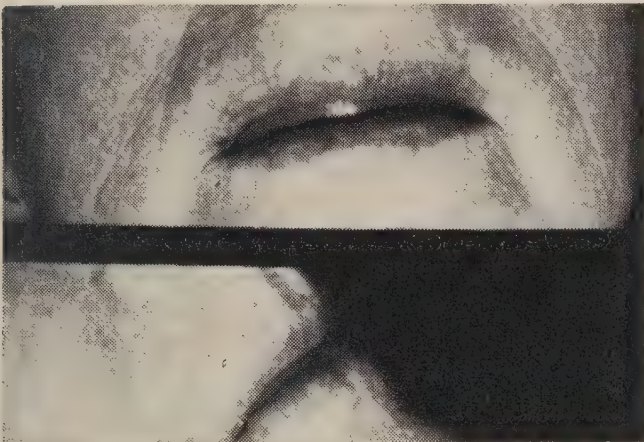


FIGURE 2 The shape of the maxillary occlusal rim conforms to the crest of the lower lip when the latter is in momentary contact with the upper lip during pronunciation of F and V sounds.

terminal position of the lower lip, during its passive action when producing the F and V sounds, is the determinant of the incisal edges of the four maxillary incisors (Figure 1).

When upper incisors are lost, their position may be simulated by a wax occlusal rim that conforms to the horizontal and vertical positions of the crest of the lower lip during articulation of the F and V sounds (Figure 2). The crest of the lower lip is the junction of its wet and dry surfaces. The form of the crest differs when the lip is at rest and when it moves during articulation of these sounds (Figure 3). Crest conformations that result from such phonetic action of the lower lip determine the antero-posterior incisal edge position, horizontal tangency, incisal arch form, and any peculiar lap-

ping or depressed tooth positions (Figure 4).

The lower lip will only define the horizontal and vertical position of the four maxillary incisors if its phonetic action is timed with the best F and V sounds obtainable (Figure 5).

Harmony between lip-tooth contact and the expulsion of air through it determines the clarity of the resultant speech. For example, incisal edges that are too low come into premature contact with the lower lip. The resultant sounds are apt to be thick and explosive. Incisal edges that are too high contact the lower lip too late, producing thin, loose and indistinct F and V sounds.

F sounds can be pronounced passively or actively. Good phonation requires that maxillary incisors be sufficiently long to articulate the passive F, yet short enough to allow the escape of air during utterance of the prolonged F in the word 'if.' In the latter situation the lower lip moves leisurely upward and slightly backward to meet the maxillary incisal valve seat, then lightly closes the valve to create the leaking valve sound.



FIGURE 3 Above: the lower lip at rest. Below: the lower lip is drawn upward and back, demonstrating muscle memory during utterance of the V sound. The crest of this lip exhibits a changed conformation.

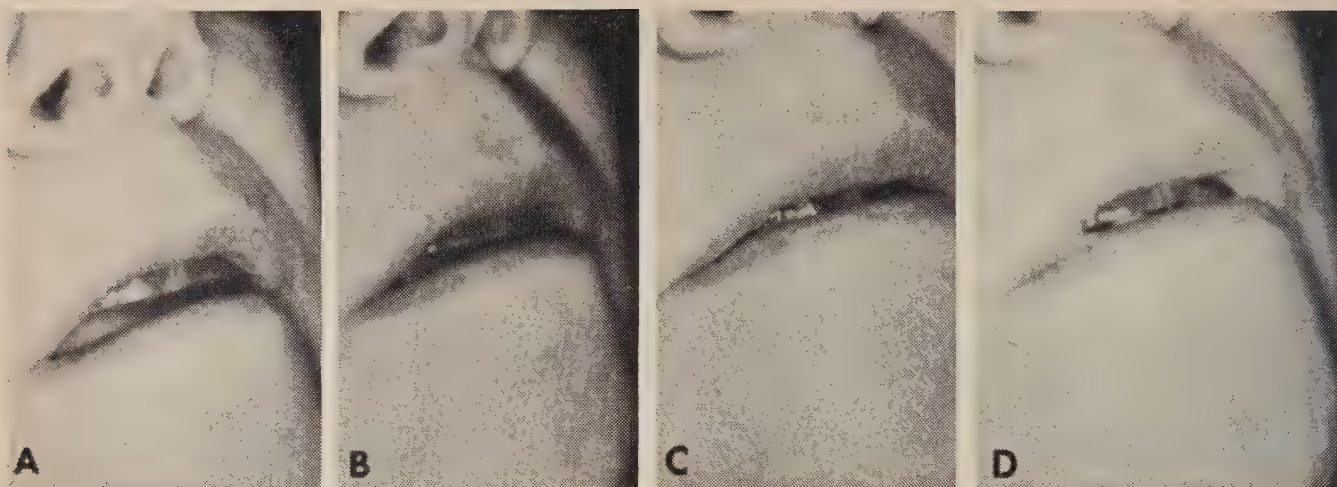


FIGURE 4 Cycle of motion of the lower lip during articulation of F and V sounds. A, the patient is asked to say the word 'before.' Utterance of the first syllable opens the mouth and permits observation of the starting action of the lower lip. B, the F sound is pronounced by raising the lower lip upward and back. C, the crest of the lower lip makes firm contact with the maxillary occlusal rim, thereby obstructing the laryngeal blast of air and producing a leaking valve for F and V consonants. D, the crest of the lower lip breaks away from the incisal edge on termination of its cycle of movement and completion of the F sound.



FIGURE 5 The maxillary occlusal rim is shaped so that it will accept the crest of the lower lip at the precise moment when that organ executes its leaking valve contact with the incisal edge of the rim.

In active F, sounded with emphasis, as in 'fire,' when one is sounding an alarm, the lower lip tenses and moves forcefully backward and upward to contact the maxillary incisal edges. The latter then touch the lower lip ahead of its crest.

The maxillary incisors must be long enough to allow articulation of the passive F and also permit the forced passage of air in the articulation of active F sounds. This functional position of the incisors permits the lower lip to rise upward and backward and 'roll off' against the maxillary incisal edges, thereby achieving physiological action of the lower lip, good phonation and an acceptable aesthetic result (Figure 6).

MANDIBULAR INCISORS

The correct position of mandibular incisors determines vertical dimension and aids in the selection of an acceptable incisal guidance. Having established the position of the maxillary incisors, the contoured maxillary occlusal rim is then replaced in the mouth. The mandibular occlusal rim is also seated and its height is reduced or increased to approximate the height of the lower lip. The front and back of this rim is then adjusted so that the maxillary occlusal rim overlaps by 1-2 mm. when the mandible is in its retruded terminal position, i.e. centric jaw relation (Figure 7).

FIGURE 6 Left: finished, shaped maxillary occlusal rim. Right: pronunciation of the F consonant. Note how the crest of the lower lip has touched and now 'rolls off' the incisal edge of the upper rim.



The functional height of the mandibular occlusal rim is determined by the downward and forward movement of the mandible when the patient pronounces S, SH and CH sounds.⁴ The height of the anterior portion is increased or decreased so that the lower wax incisal edge approximates, yet does not actually touch, the upper wax incisal edge when the patient utters these sibilants. The procedure is as follows:

Ask the patient to say the word 'Ohio.' This will open the mouth (Figure 8). Then ask him to say 'Mississippi,' 'ship,' 'sailing ship,' 'Chicago' and 'chafing dish.' Closely observe the approximation of the wax incisal edges during the formation of these sounds and adjust the height and antero-posterior position of the front part of the lower occlusal rim (Figure 9). This portion of the lower rim retains the same antero-posterior position when there is no forward movement of the mandible during utterance of the sibilants. If there is any forward mandibular movement, thicken the lingual aspect of the front of the lower rim until this surface is flush with the labial surface of the upper rim on termination of the forward shift. During preparation of the front of the lower occlusal rim, trim the back of both rims to eliminate any possible contact between them. You have now recorded the horizontal and vertical overlaps created by downward and forward movement of the mandible during utterance of the sibilants. The height of the mandibular rim and the length of the maxillary rim give you the vertical occlusal dimension.⁵

This vertical dimension includes provision for the interocclusal distance between the occluding surfaces of the maxillary and mandibular teeth or occlusal rims when the mandible is in its physiological rest position.

The interocclusal distance is automatically established if the preceding steps are carried out correctly. This can be verified in the following manner:

Place the adjusted occlusal rims in the mouth and ask the patient to close until the rims are in contact and his lips touch. Then instruct him to "sit loose and let his mouth drop open until his lips are just ready to part but do not actually separate." Repeat this exercise until the patient learns to relax his musculature. When the patient's mandible is in its re-

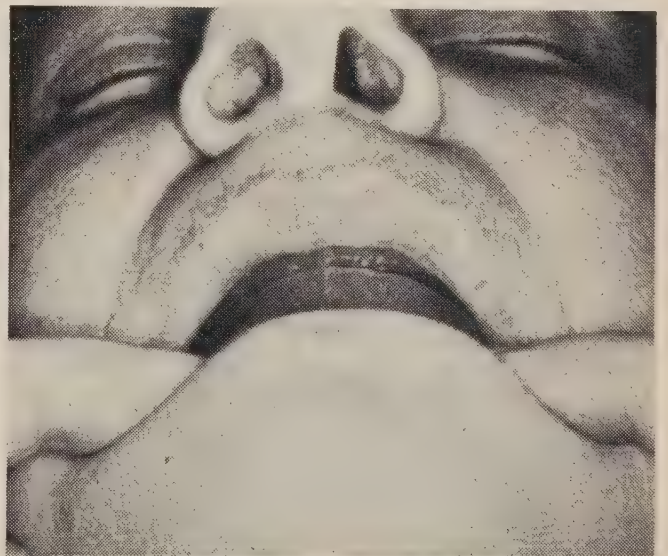


FIGURE 7 The mandibular occlusal rim is adjusted to give a maxillary horizontal overlap of 1-2 mm.



8

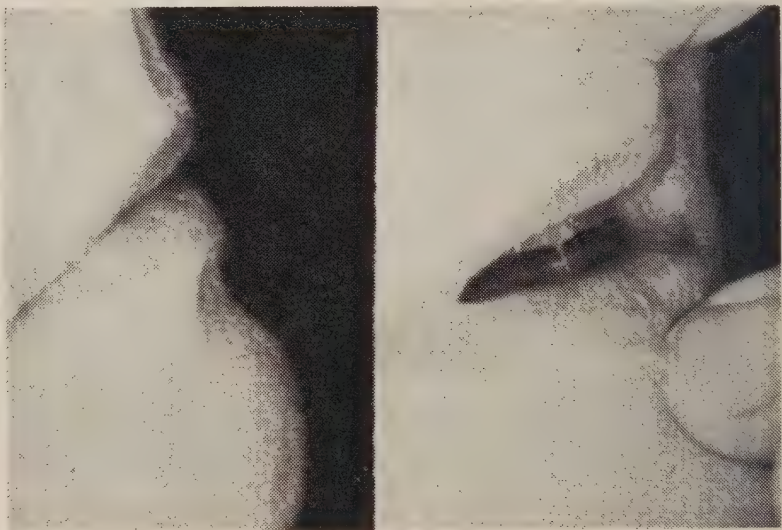
FIGURE 8 The patient pronounces the word 'Ohio.' This opens the mouth and relaxes the mandible.



9

FIGURE 9 The patient says the word 'Mississippi.' Left: the mandible is in centric relationship. Right: sibilants in 'Mississippi' are pronounced by dropping the mandible downward and forward. The height of the lower rim is adjusted until it barely touches the upper rim when these sibilants are pronounced.

FIGURE 10 Left, the mandible in physiological rest position. Right, parted lips reveal the interocclusal distance.

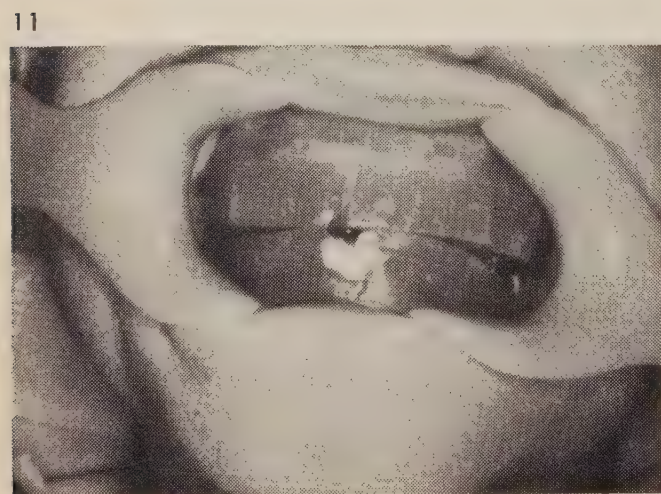


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FIGURE 11 Maxillary and mandibular occlusal rims in tentative centric occlusal relationship. The occlusal rims have been shaped to serve as wax templates for placement of the anterior teeth.

FIGURE 12 Casts are mounted in tentative centric relationship on an articulator. A plaster incisal index is also made. Above: the index covers the incisal edge of the upper occlusal rim. Below: appearance of the index when the articulator is opened slightly.

12



11



FIGURE 13 The articulator is adjusted for protrusive relationship. The distance traversed by the mandible during pronunciation of the sibilants is recorded by lining up the labial surface of the upper rim with lingual surface of the lower rim. The incisal guide plate of the articulator is set at zero or flat. The incisal guide pin is raised above the guide plate because the protrusive relationship of the wax rims includes downward movement of the mandible.



13

FIGURE 14 The incisal guide plate has been adjusted to meet the incisal guide pin, thereby establishing the incisal guidance.



14

laxed physiological rest position, quickly part the lips and observe the anterior interocclusal distance between the maxillary and mandibular occlusal rims (Figure 10).

SUMMARY AND CONCLUSIONS

When a patient who has lost his upper incisors produces F and V sounds, muscle memory enables the lower lip to define the normal incisal edge position of these teeth. Given this position of the maxillary teeth, the downward and forward movement of the mandible during the utterances of the sibilants determines an acceptable vertical occlusal dimension and contributes to the selection of a workable incisal guidance (Figure 11).

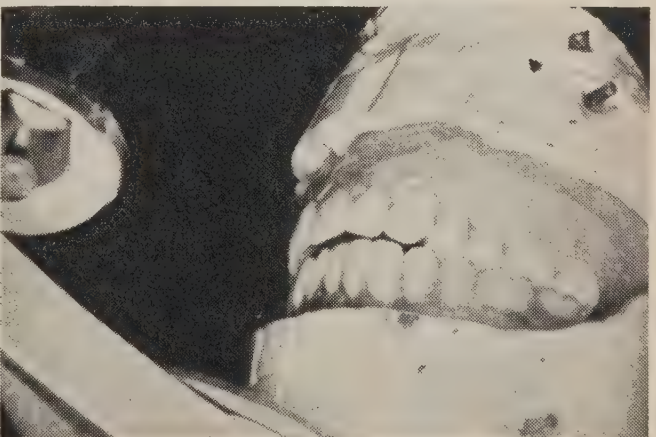
This article has demonstrated a method for registering the incisal edge positions of the maxillary teeth (Figure 12), determining the vertical occlusal dimension and securing the information for the



15

FIGURE 15 Maxillary anterior teeth are set to the incisal index.

FIGURE 16 Mandibular incisors are set to the lingual and superior surfaces of the mandibular occlusal rim, thereby establishing incisal guidance through a composite of vertical and horizontal overlaps.



16

selection of an incisal guidance (Figures 13 and 14). These registrations provide the dental technician with precise directions for placement of the anterior teeth (Figures 15 and 16).

Clinical experience has shown that anterior teeth give the most pleasing result when they occupy a physiological position. The action of the lower lip against the maxillary teeth and the downward and forward motion of the mandible influence the articulation of the incisors and enhance this natural appearance.⁶

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Deep cavities cut in dogs' teeth were capped with calcium hydroxide containing radioactive calcium to study the possibility of ion incorporation from the capping material into reparative dentine. The results showed that the calcium of reparative dentine does not originate in the capping material.

On a préparé des cavités profondes dans des dents de chiens, que l'on a ensuite obturées avec de l'hydroxyde de calcium contenant du calcium radioactif pour étudier la possibilité de l'incorporation d'ions du matériau d'obturation à la dentine réparatoire. Les résultats ont indiqué que le calcium de la dentine réparatoire ne provient pas du matériau d'obturation.

M. N. Attalla,* BDS, MSD, Calgary and
A. A. Noujaim,† PhD, Edmonton, Alta.

Calcium hydroxide, as a pulp capping material, encourages the formation of reparative dentine.¹ A few investigators have tried to explain the role of this alkali. Zander^{2,3} believes that calcium ions diffuse from the calcium hydroxide and aid in the formation of the dentine bridge. Stark et al⁴ used calcium₄₅ as a capping material in exposed pulps and produced scattered areas of radioactivity in the pulp. They, too, suggest that the calcium ion enters into the formation of reparative dentine. Such observations may be due to surface contamination of the pulp tissue through exposure to the radioactivity present in the pulp capping substances. On the other hand, contradictory reports by Sciaky and Pisanti^{5,6} indicate that calcium ions from such materials are not incorporated in the reparative dentine. The latter two authors' technique was based on superimposition of

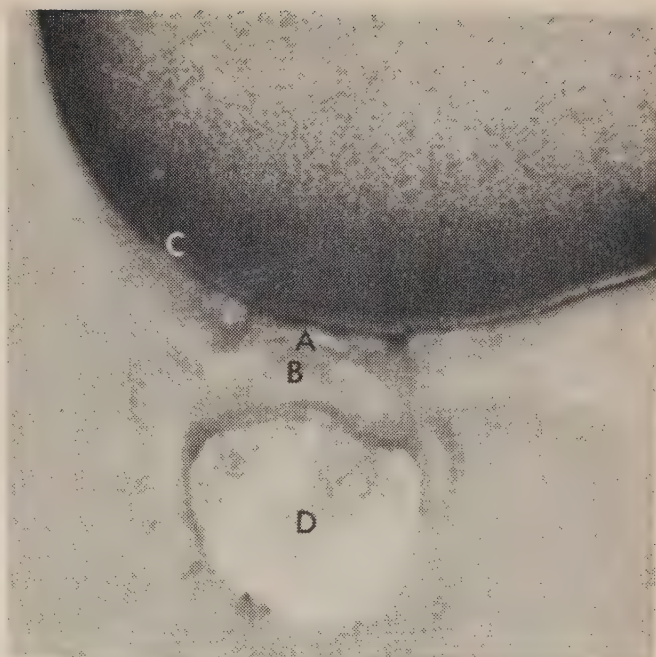


FIGURE 1 Autoradiograph from a transverse section of a dog's canine in which a very deep cavity was cut. The pulp was capped with calcium hydroxide and distilled water for 10 weeks. Calcium₄₅ was used as a tracer. A, remaining primary dentine. B, reparative dentine. C, cavity wall. D, pulp cavity. Note the absence of tracer from the reparative dentine. x 28.

ROLE OF CALCIUM HYDROXIDE IN THE FORMATION OF REPARATIVE DENTINE

the radiographs on tracings of outlines of the teeth, a procedure which could lead to errors in interpretation.

The aim of this investigation was to study the role of calcium hydroxide in the formation of reparative dentine. Calcium₄₅ was used in a technique which avoided pulp exposure and eliminated the superimposition of radiographs.

EXPERIMENTAL PROCEDURE

Cavity Preparation. — A young healthy dog was anaesthetized by intravenous injection of sodium pentobarbital (10 mg. per pound body weight). The instruments used were autoclaved and the field of operations was swabbed with 70 per cent alcohol. Class V cavities, in eight teeth, were started on the labio-gingival third of the canines and lateral incisors using No. 556 carbide fissure burs in an air turbine handpiece with air stream coolant. Once the enamel had been removed and the cavity outline prepared, the remaining operative procedures were performed under a binocular operating microscope to allow careful observation. The cavities were then deepened with a No. 3 round steel bur in a straight handpiece revolving at 1,500 rpm. The deepening of the cavity floor was continued until the floor changed from an ivory to a light red colour which gradually became darker in the centre as the pulp was approached. This change was due to the transmission of the colour of the pulp through the very thin cavity floor. The cavities were then carefully examined under the microscope to confirm that the pulp had not been exposed.

Calcium₄₅ (New England Nuclear Corporation, Boston), having a specific activity of 0.3 microcuries per ml., was mixed with pure calcium hydroxide and pyrogen-free water. The resulting paste was applied to the deepest parts of the various cavities and covered with a thick mix of zinc oxide and eugenol cement. The cavities were then sealed with silver amalgam. After 10 weeks the animal was sacrificed with an overdose of sodium pentobarbital. The operated teeth were cut transversely 4-6 mm. apical to the

cervical line. After removal of the filling material, the cavities were cleaned with a fine brush and detergent. Serial ground sections, each 75 microns thick, were obtained from each tooth by means of a Gillings-Hamco thin sectioning machine (Hamco Machines Inc., Rochester, NY). The sections containing the deepest part of the cavities were selected for our study.

Autoradiography. — The wet sections were carefully transferred to Kodak NTB-3 nuclear track plates (25 microns thick and 1 micron gelatin top) and dried over calcium sulphate for one week in a dark box. A siliconized slide was then superimposed on the sections, and the entire preparation was clamped with Esterbrook No. 2 spring clamps. After three weeks' exposure the siliconized glass plates were carefully removed and the autoradiographs were wetted for a few minutes in distilled water. The plates were developed for four minutes in Kodak D-19 developer, washed in distilled water for 30 seconds, fixed in Kodak acid fixer for eight minutes and then washed again in distilled water for 20 minutes. All solutions were maintained at 19-21°C. The sections were then fixed with Permount and examined under the microscope.

RESULTS

Figure 1 shows an autoradiograph of a canine in which a very deep cavity was capped for 10 weeks. Some radioactivity, due to calcium₄₅, is localized in the first few layers of primary dentine of the cavity floor, but none can be demonstrated in the reparative dentine. Other sections gave similar results.

DISCUSSION

Our results indicate that calcium₄₅ ions diffuse through the dentinal tubules of the remaining primary dentine but do not participate in the formation of the reparative dentine. Apparently the calcium in

the reparative dentine does not originate from the pulp capping material. Such a diffusion of ions through the primary dentine has been confirmed by other investigators.^{7,8}

The method developed in this investigation provides a more precise means for the study of possible ion incorporation from pulp capping materials into the reparative dentine. Further investigations, using the same technique, are underway to determine the possible sources of calcium ions other than the calcium hydroxide.

SUMMARY

A new technique was developed to study the possible ion incorporation from pulp capping materials into reparative dentine. Deep cavities were cut and calcium₄₅ was mixed with the pulp capping material as a tracer. The results of this work show that the calcium of repar-

ative dentine does not originate in the pulp capping material.

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†Associate professor of bionucleonics, Faculty of Pharmacy, University of Alberta, Edmonton.

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CURRENT DENTAL RESEARCH IN CANADA

In the following seven annotations the Journal presents short sketches of significant dental research currently underway in Canada. Each annotation is condensed from reports presented by the respective authors at the Fifth Canadian Conference on Dental Research. The conference was held October 23-25, 1968, at the University of Western Ontario, London. The Journal expresses appreciation to the conference participants who provided these annotations. The Journal also welcomes comments from readers with a view to improving the usefulness of such presentations to the profession.

Computers

The Computer as an Adjunct to Dental Research

*G. W. Thompson and D. W. Lewis,
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Toronto*

Computers are valuable in many phases of dental research. As the electron micro-

scope has opened up new horizons in cell biology, the computer has made it possible to undertake projects that a few years ago were inconceivable because large numbers of time-consuming calculations were required. In addition, computers permit far more accurate statistical analyses if data recording, transposing and card punching errors are limited.

Though the computer aids statistical analyses and data processing, it does not do the research without support. Programmers and auxiliary equipment are required to prepare the computer instructions and data. Analysis on a desk calculator is often faster for small jobs that do not require repetitive procedures. The computer helps to minimize the work load in large dental research projects, but it does not take the thinking out of the development of the experimental design or conclusions.

Statistical procedures amenable to computer application can be grouped into three broad categories: (1) reducing and summarizing data, (2) testing hypotheses and (3) investigating relationships or making predictions. We have used an IBM 1130 computer for data analysis in the following investigations: craniofacial

growth and development (mandibular length growth analysis), public health (analysis of dental manpower in Ontario), dental economics (time-cost dental care study), immunochemistry (conventional local Shwartzman reaction), dental survey methods (evaluation of dental indices) and epidemiology (appraisal of hemifacial microsomia).

Growth and Development

Origin and Migration of Facial Muscle Primordia and Their Significance in Development of the Cranial Nervous System

R. D. Hazelton, College of Dentistry,
University of Saskatchewan

Embryonic craniofacial development is complex. There are conflicting opinions over the origin of the facial musculature. Chick embryos were subjected to radioautographic and silver staining procedures to elucidate this aspect of development. Segments of occipital somitic material were transferred from embryos labelled with tritiated thymidine to unlabelled host embryos. The migration pattern and fate of the labelled material was determined radioautographically. Silver staining was used to study the relationship between the developing muscle primordia and the cranial nerves.

The following conclusions emerged. The facial musculature originates from both the somites and the lateral plate mesoderm. Labelled nuclei found in developing hypoglossal muscle primordia indicate that this musculature develops from the occipital somites. Labelled elements from the somites were also found lateral to the laryngotracheal groove and presumably contribute to the hypopharyngeal musculature. The lack of labelled elements in the facial muscle primordia suggests that this material arises from lateral plate mesoderm.

The muscle primordia of the visceral arches and tongue form cords which act as channels for the various cranial nerves. The muscles precede the nerves into the various facial areas.

Eruption of Teeth

Tooth Eruption Sequence in Fossil and Living Primates

G. H. Sperber, Faculty of Dentistry,
University of Alberta, Edmonton

The order of eruption of permanent teeth varies characteristically among primate species and is used as one of several taxonomic criteria in distinguishing fossil hominids from living primates and recent man. The eruption sequence $M_1I_1I_2M_2$ [P_1P_2] $C M_3$ is found most frequently in anthropoid apes, while modern man usually manifests the $M_1I_1I_2$ [$C P_1P_2$] M_2M_3 sequence. (Teeth in parentheses erupt in variable order.) The tendency for the shift in eruption of M_2 may indicate changing trends in dental eruption sequences in primate taxonomic groups. Australopithecine fossils show examples of an intermediary order of eruption of M_2 concomitant with premolar and canine eruption, as in *Paranthropus crassidens* (Swartkrans), and the eruption of M_2 before premolars and canines, as in *Australopithecus prometheus* (Makapansgat). The attritional wear of the teeth of the juvenile type mandible of *Homo habilis* suggests a $M_1I_1I_2M_2P_1C P_2M_3$ eruption sequence. The prolongation of the period of eruption of the dentition in hominids compared with pongids is considered a manifestation of paedomorphism or foetalization of development in man.

Enamel

The Fine Structure of Rat Incisor Enamel

Hershey Warshawsky, Department of
Anatomy, McGill University, Montreal

The enamel of rat incisors is a uniformly wide, thin strip covering the dentine on the labial surface of the tooth. Mature enamel shows two structurally different layers: the inner (adjacent to the dentine) and the outer enamel. Decalcified rat enamel revealed the organization of the organic matrix of both types of enamel. This was studied by light and electron

microscopy in teeth fixed by perfusion with glutaraldehyde, decalcified in EDTA, osmicated and Epon embedded.

The inner enamel consisted of rods lined up in rows which ran across the width of the enamel strip. The rods of each row were either mesially or laterally inclined with adjacent rows alternating in direction. Hence, the rods of one row crossed those of adjacent rows at 90 degrees. The rods of inner enamel did not end at the junction with the outer enamel, but continued into the outer enamel where they became long, straight rods lying parallel to the long axis of the enamel strip.

Under the electron microscope the fine structure of the rods of both layers consisted of an aggregate of closely packed tubules, 200Å in diameter, lying parallel to each other and to the long axis of the rod. The 'interrod material' between the rods consisted of identical tubules lying parallel to each other but running in a different direction from the rod tubules.

This investigation was supported by a grant from the Associate Committee on Dental Research of the National Research Council of Canada.

Periodontic Disease

Effect of Chronic Inflammation on Spontaneous Antigen Penetration into Rabbit Gingiva

H. M. Dick, Faculty of Dentistry, University of Alberta, Edmonton and J. R. Trott, Faculty of Dentistry, University of Manitoba, Winnipeg

There is growing support for the hypothesis that immunity may play a role in the pathogenesis of destructive periodontitis. The theory that inflammation may facilitate the entry of antigenic substances into tissues and enhance the resultant immune response is not new.

We tried to determine if horse ferritin antigen will penetrate the natural tissue barriers of the mandibular incisor gingival sulcus of sensitized rabbits, and whether such penetration is affected by local gingival inflammation.

Nine rabbits were divided into test and control groups. Chronic gingival inflammation was induced by placing calculus-simulating cement packs into air dried gingival pockets. Horse ferritin antigen was introduced daily for 20 days into normal and inflamed pockets of sensitized and non-sensitized animals. Serum anti-horse ferritin assays were performed before and after the experimental period. Following treatment, tissue sections of the treated gingiva and the local draining lymph nodes were prepared using haematoxylin and eosin, Perls' Prussian blue and methyl green-pyronin stains.

The results suggest that horse ferritin antigen will penetrate the tissues of the gingival sulcus only if the rabbits are sensitized to the antigen, and that such penetration is enhanced by the presence of inflammation. The criteria for such penetration are the presence of antigen in the local draining lymph nodes, a maintained or increased serum anti-horse ferritin titre over the treatment period, and histological changes in the gingiva and lymph nodes consistent with tissue immune reactions.

Quantitative Variations in the Histochemical Demonstration of Human Gingival Mast Cells

A. P. Angelopoulos, Faculty of Dentistry, Dalhousie University, Halifax

The material consisted of gingival biopsy specimens obtained from 49 individuals divided into two groups according to their gingival condition: Group 1 (22 individuals) with clinically normal gingiva and Group 2 (27 individuals) with inflamed gingiva (periodontitis).

The specimens were fixed in CPC-Formalin (1 per cent cetyl pyridinium chloride and 4 per cent formaldehyde in equal parts) embedded in paraffin and cut in serial sections 8 microns thick. These were stained with haematoxylin and eosin, Toluidine Blue (0.01 per cent at pH 6.5), Astrablau (0.5 per cent at pH 0.25) and Periodic Acid-Schiff (PAS).

Utilizing the micrometer component quantitator, the mast cells in the gingival connective tissue were counted in serial

sections of the same biopsy specimens which were stained consecutively with Toluidine Blue, Astrablau and PAS. From these counts the mean number of mast cells per square millimetre of gingival connective tissue was estimated for every individual in the two groups.

The number of mast cells per square millimetre of gingival connective tissue was constantly higher when Astrablau was used. In Group 1 the mean number of mast cells per square millimetre was 80.21 (S.E. 10.36) for Astrablau, 56.40 (S.E. 9.28) for Toluidine Blue and 7.84 (S.E. 3.73) for PAS. In Group 2 the mean number of mast cells per square millimetre was 44.72 (S.E. 7.08) for Astrablau, 31.15 (S.E. 4.74) for Toluidine Blue and 4.46 (S.E. 1.64) for PAS.

Physiology

Reflex Mastication and its Central Control in the Decerebrate Rat

*N. R. Thomas, Faculty of Dentistry,
University of Alberta, Edmonton*

Apparently no one has ever investigated the physiology of the central control of mastication in the rat although this animal is commonly used to study the peripheral elements of the masticatory apparatus. Precollicular decerebration was therefore produced in 20 albino rats. Jaw rigidity was obtained with the mandible held in the physiological 'rest' position. Incisive chewing occurred when an object was presented between the maxillary and mandibular incisors. Combined mandibular depression and light tactile stimulation of one or both incisors provided an adequate stimulus for this reflex. Neither could individually evoke the masticatory reflex. Instead of an anticipated mandibular depression following incisor stimulation, light pressure produced a sharp elevation of the mandible followed by a slow relaxation to the 'rest' position. Sudden passive depression of the mandible produced the typical 'jaw jerk' (Sherrington, C.S. J. Physiol. 81:404, 1917).



Masseter spindle activity was stereotactically recorded from the mesencephalic nucleus V with a monopolar stainless steel electrode and photographed from a cathode ray oscilloscope tracing. Subsequent microscopic examination confirmed the position of the electrode in the nucleus. Passive jaw opening activated units in the nucleus, whereas closure resulted in their inhibition. The activity recorded from the mesencephalic nucleus V during reflex mastication is represented by a composite pattern of the separate responses evoked by passive mandibular depression and elevation. Directionally sensitive dental pressor activity located in the same area indicates the overall proprioceptive function of the nucleus. These observations suggest that the masticatory reflex arises in the following manner. Elevator spindle activity is set subliminally by passive depression of the mandible. Due to elevator and depressor rigidity dental pressor stimulation evokes an 'isometric' contraction of the depressor musculature activating elevator spindle afferents. A powerful myotatic reflex closure of the jaw ensues which, in turn, relaxes elevator spindles and allows passive depression of the mandible. The masticatory cycle may thus be repeated.

This investigation was supported by Grant DA 174 of the National Research Council of Canada.

book reviews • analyse

Dental Health Status of the New Zealand Population in Late Adolescence and Young Adulthood

D. J. Beck, Division of Dental Health and National Health Statistics Centre, NZ Department of Health. Special Report No. 29. Wellington, R. E. Owen, Government Printer, 1968. Processed. 106 p. \$1.25

New Zealand children from 2.5 to 16 years of age have been the recipients of regular, government-sponsored, organized dental services. Mr. Beck's survey of the dental health status of the young adults 15 to 21 years of age is an important document for it reveals that the children's programs do result in a dentally-conscious population of young adults. Great care was taken to ensure that the 2,145 individuals in the study were representative of the population on the basis of sex, employment, education and geographical region. The annual caries attack rate was still quite high, particularly for male subjects, but the treatment level was also high. Of the total decayed, missing and filled teeth (DMF), 59.2 per cent were filled and not secondarily carious while 6.8 per cent were missing or required extraction. Although 5.4 per cent of the study group wore or needed full or partial dentures, there was a great improvement over the years 1952 and 1958 when 28 and 12 per cent of 18-21 year olds wore or needed dentures. Indices of oral hygiene and periodontic disease showed that the males brushed their teeth less frequently than females and they had a higher incidence of mild but significant periodontic disease. The report also contains records of fractured anterior teeth, enamel opacities, impacted teeth, handicapping dentofacial anomalies and congenitally missing teeth. Records of patients' treatment history through the programs provided by the school dental nurse, the dentist under General Dental Benefits, the dentist after General Dental Benefits, and the dentist throughout life provide accurate measurements of utilization of the various services. Beck mentions that the dental care problems in New Zealand adolescents and young adults are minimal compared with those in Australia where tooth loss in this age group is very much greater. He expects that the dental health status of similar groups of young adults will continue to improve in the future through the widespread availability of fluoridated water in the last decade, im-

provements in dental education programs and the growing awareness of the value of good dental health.

Similar evaluations of the dental health status of young Canadian adults should be made immediately. Such surveys would be useful in planning dental programs which would offer future generations of Canadians prospects for improved dental care.

A. M. Hunt

Orban's Periodontics

D. A. Grant, I. B. Stern and F. G. Everett. Ed. 3. St. Louis, C. V. Mosby Company, 1968. 652 p. Illus. \$19.80

According to the introduction, this book is intended for dental students and general practitioners. The first chapter therefore starts with a list and simple definitions of periodontic terms. The authors then take the reader through the aetiology and treatment of gingivitis and periodontitis. These chapters are well illustrated and cover the subject material very thoroughly. Most of this portion of the text, aside from scaling, is devoted to surgical techniques. These techniques are well explained. They cover the full range, including the most recent 'free graft' method. Occlusal trauma and occlusal adjustment are also thoroughly examined, and the information presented is of practical value to any practitioner. A final chapter deals with postoperative care and maintenance.

The book has several important omissions. Reference to the influence of systemic diseases is very sketchy. There is nothing on nutrition and there is no mention of any soft tissue lesion other than gingivitis. *Orban's Periodontics* is primarily a good review of periodontic surgery and occlusal adjustment. Periodontists will have no difficulty in following the text, though the same cannot be said for dental students or general practitioners. Indeed, the book is beyond the interest range of most general practitioners. Subject to these limitations, the book is a useful reference text.

J. D. Stewart

Review of Dental Hygiene: Questions and Answers

Pauline F. Steele. Philadelphia, Lea & Febiger, 1968. (Available from The Macmillan Company of Canada Limited, Toronto) 322 p. Illus. \$9.25

Review texts on single or multiple subjects can take a variety of forms. These may vary from a synopsis of the subject material to a question and answer type of review. Question and essay answers and objective type questions and answers are the two formats

popular in question and answer reviews. Pauline Steele's text is composed of objective type multiple choice questions and answers. It comprises 14 chapters, each containing approximately 100 questions. Most chapters deal with a single subject area. The exceptions are chapters 9, 13 and 14 where several subjects are combined and the number of questions ranges from 145 to 200. Each chapter concludes with the correct answers to the questions. A list of reference texts is also included for each chapter. Its value would be enhanced if the references were cited in the answers to each question.

Pauline Steele has contributed chapter 14 on dental hygiene history, organization, jurisprudence and office administration. Other contributors, who are directly associated with dental hygiene education, have each contributed a chapter in their related fields. The prime objective was to provide a useful review of all subjects studied by dental hygienists, but this has not been fully realized. Irrespective of format, one text cannot adequately embrace the entire dental hygiene curriculum. The main subject areas covered in the *Dental Hygiene Review* are histology, embryology, pathology, microbiology, physiology, general anatomy, chemistry, pharmacology, nutrition, dental materials, oral anatomy, dental radiology, clinical dental hygiene, dental public health and dental health education. Not covered are the humanities, social sciences and communications. These areas also contribute to the dental hygiene curriculum and are important for the development of a professionally qualified auxiliary.

The average of 100 questions per chapter does not mean that all subjects are taught with equal scope. The cue for selecting approximately 100 questions per chapter may have been taken from professional tests where approximately 100 test items are selected from a question bank to constitute the examination. The questions selected in Pauline Steele's text do, however, cover the fundamentals of the various subject areas, and readers will find the book a useful aid in reviewing the subject material.

Pauline Steele has selected contributors who are knowledgeable or specialists in their subject areas. The ability to construct multiple choice questions does not always parallel knowledge of the subject. Such questions are generally more difficult to construct than other kinds of questions. Multiple choice questions are also more versatile than other types of objective questioning. Good test items are relatively difficult to construct and demand much time on the part of the constructor. Consequently, professional test makers often use this type of questioning. Contrary to Pauline Steele's intentions the majority of the questions do test factual information. They are weak, however, as a tool for testing the understanding of concepts and problem solving. Several of the pitfalls in multiple choice questioning, such as high reading difficulty,

long stems and level of distractor difficulty, are consequently in evidence.

Notwithstanding these shortcomings, *Review of Dental Hygiene* is a useful educational contribution. It affords readers an opportunity to become familiar with objective multiple choice questioning, a method which is bound to gain popularity in light of the need for standardizing examinations. It also provides a useful review of selected subjects studied by the dental hygienist. Dental hygiene students and dental hygienists preparing for examinations will appreciate this type of approach to questioning. Moreover, dental hygiene instructors may find this a useful text for course preparation and for classroom use.

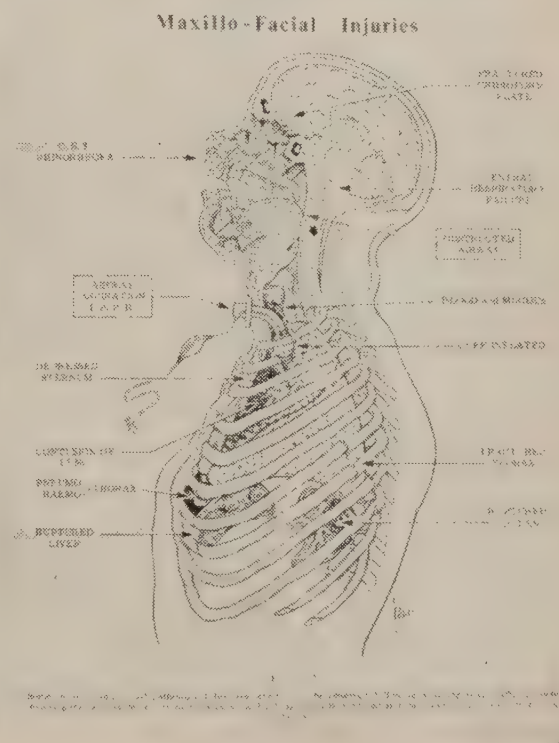
M. Berry MacLean

Fractures of the Facial Skeleton

N. L. Rowe and H. C. Killey, Ed. 2. Edinburgh and London, E. & S. Livingstone Ltd., 1968. (Available from The Macmillan Company of Canada Limited, Toronto) 896 p. Illus. \$33.50

The authors of this book have created a literary and scientific gem which elucidates the discipline of maxillofacial surgery. The book is easily read, beautifully illustrated and contains chapters on subjects seldom seen in books of this kind. It is a record of their skill and years of experience which should be in the library of every oral surgeon or others interested in this specialty of surgery.

D. M. Tanner



Precision Attachments in Dentistry

H. W. Preiskel. London, Henry Kimpton, 1968. 184 p. Illus. 63s.

Although this book is described as an introductory manual for the practitioner and the advanced student, much of it is directed toward the competent and well versed dental technician. Any dentist who wishes to utilize precision attachments must nevertheless know the correct uses and abuses of each attachment. These devices are much more fragile than clasps used to retain a partial denture. To ensure success, they should only be used in well trained, intelligent patients who will give them proper care and maintenance.

Preiskel's book contains many excellent photographs and schematic drawings illustrating different precision attachments. These are supplemented by precise recommendations for their use and detailed laboratory instructions for fabricating the actual appliances. As with other attachments, the periodontium must be healthy or under proper treatment before contemplating the use of precision attachments.

Of added interest is the opening chapter on treatment planning. This includes several interesting examples of minor tooth movement performed prior to actual construction in the mouth.

The author groups prefabricated precision attachments into (1) intra-coronal attachments, (2) extra-coronal attachments, (3) stud attachments, (4) bar attachments and

(5) auxiliary attachments. American and Canadian dentists will be especially interested in Swedish and other European attachments which are now gaining popularity in North America.

The book deals almost exclusively with removable partial dentures. No real consideration is given to fixed partial dentures; nor was this intended. Despite the emphasis on the mechanics of precision attachments, most of the information provided is necessary in order to understand the function and correct use of the various devices.

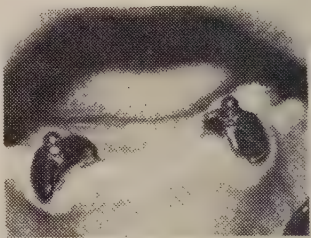
Precision Attachments in Dentistry makes fascinating reading from the opening chapter to its conclusion. The author is a well versed, erudite practitioner who states his principles simply, describes his techniques clearly and succinctly outlines his suggestions for their use. I recommend the book to any practitioner interested in partial denture prosthodontics.

W. D. Cavanagh

Essentials of Dental Surgery and Pathology

R. A. Cawson. Ed. 2. London, J. & A. Churchill Ltd., 1968. (Available from Queenswood House Ltd., Toronto) 340 p. Illus. Hardcover \$16.00 Limp \$12.00

A great deal of work has gone into the preparation of this book. The illustrations are excellent. But, as stated in the preface, "the purpose of the book is to provide the stu-



Oral Hygiene
The oral cavity is the most important source of infection in the body. It is the only source of infection that can be directly observed. It is the only source of infection that can be directly observed. It is the only source of infection that can be directly observed.

Periodontal Condition of Root
The periodontal condition of the root is the most important factor in the selection of a root for a precision attachment. It is the most important factor in the selection of a root for a precision attachment. It is the most important factor in the selection of a root for a precision attachment.

Radiographical Condition of Root
The radiographical condition of the root is the most important factor in the selection of a root for a precision attachment. It is the most important factor in the selection of a root for a precision attachment. It is the most important factor in the selection of a root for a precision attachment.

Inspection
At the time of the inspection, the root should be examined for evidence of caries, periodontal disease, and other conditions that might make it unsuitable for a precision attachment. It is the most important factor in the selection of a root for a precision attachment. It is the most important factor in the selection of a root for a precision attachment.

Oral Mucosa
The oral mucosa should be examined for evidence of inflammation, ulceration, and other conditions that might make it unsuitable for a precision attachment. It is the most important factor in the selection of a root for a precision attachment. It is the most important factor in the selection of a root for a precision attachment.

dent at an early stage in his course with a basis for his clinical work." This it fails to do.

Principles and philosophies of pathology, diagnosis, treatment and prevention of disease are not given. Other subjects are oversimplified and, from the abbreviated manner of presentation, the reader is expected to accept but not challenge or think.

The 23 chapters are like unrelated separate articles. The chapters are in turn cut into disorderly sections and numerous subsections. Eight are related to oral medicine, seven to oral surgery and one to periodontology. No chapter is in the form of an introduction. Too much material is given but no subject is adequately covered.

G. J. Parfitt

Continuing Education in Action

H. J. Alford (for W. K. Kellogg Foundation, Battle Creek, Michigan). Toronto, John Wiley & Sons, Inc., 1968. 153 p. *Illus.*

Continuing education, as the title of this book emphasizes, is the reflection of changing education. More than half of today's jobs and occupations did not exist a generation ago. As he strives to succeed, today's young man faces six or seven major retraining periods during the normal working span of his life. About half of what the new science graduate now knows will be obsolete 10 years hence, and half of what he will need to know 10 years from now has not yet been discovered.

Though many young graduates seem unaware of the new learning which lies ahead, others are alert to new ideas and plan for the necessary retraining. Their aspirations have been rewarded by the Kellogg Foundation which has spent more than \$20 million to keep pace with continuing education. The Foundation helped to start the first Kellogg Centre for Continuing Education at Michigan State University in 1951, and Kellogg has helped to develop nine other such centres. Elsewhere, American universities have established another 80 independent centres, and more are promised in the future.

The first four Kellogg-aided centres were the Michigan State, Georgia, Nebraska and Oklahoma centres. Six others followed at Chicago, Notre Dame, Oxford (England), New Hampshire, Columbia, and the Kellogg-Voorhis Campus at Pomona. These 10 centres have residential continuing education facilities. Each is a self-contained adult college with auditoriums, seminar rooms and living facilities.

Thousands of adults are going back to continuing education centres today to learn about scientific, economic, social and other advances that can help them lead more useful lives. Alford, in dedicating his book to

these people, quotes the words of Joseph K. Hart: "We may as well admit that it is not the education of children that can save the world from destruction . . . it is the adult who must be given the chance to become free in a world of science, tolerance, human sympathy, and intelligent organization."

Alford emphasizes that continuing education must use all the resources of great universities to benefit all who may find them useful. He describes the structure, programs, personnel and other problems encountered in the development of the 10 Kellogg-aided centres. Their programs usually appeal to groups who share a common objective. Thus, a three day ecumenical seminar on "The Human Sciences and the Church" was jointly sponsored in 1967 by churches, community groups and a major university. The seminar was, in the words of one participant, "a real blast of fresh air."

Alford stresses that continuing education centres are not just convenient meeting places for holding conferences. He views them as the starting point for a broad range of continuing education activities, including credit and non-credit evening classes, study departments, radio and television facilities, libraries and studios — the point of departure toward anything the human mind can create by mental 'outreach.'

A. C. Lewis

Textbook of Oral Surgery

G. O. Kruger, ed. Ed. 3. St. Louis, The C. V. Mosby Company, 1968. 593 p. *Illus.* \$19.25

Like the earlier second edition, reviewed in November 1964 (*J. Canad. Dent. Ass.* 30:753), this text is excellent for all levels of the profession: student, graduate and oral surgeon.

There are a few changes in this edition. The format has been changed from a one to a two column page which is easier to read. A new chapter on tissue transplants outlines the subject, touching on types of transplants and some of the problems encountered. It does not describe transplant procedures. The chapter on developmental deformities has been updated. It describes the latest techniques in mandibular and maxillary surgery. Surgery in the maxilla, however, is only briefly discussed. Newly added to the chapter on abnormalities of the mouth is a discussion of the use of skin grafts in vestibuloplasty. Finally, brief descriptions of lincomycin, kanamycin and cephalothin have been added to the chapter on bacteriology.

This book is well worth having. If one has the second edition, however, the minor changes in this edition do not warrant its acquisition.

J. Z. Gajda

library • bibliothèque

Additions • Acquisitions

ADAMS, C. P. Dental photography. Bristol, John Wright & Sons, Ltd., 1968. 84 p. illus. \$6.15

ADRIANI, J., ed. Appraisal of current concepts in anesthesiology. Vol. IV. St. Louis, Mosby, 1968. 464 p. \$13.20

ALABAMA UNIVERSITY. SCHOOL OF DENTISTRY. International symposium on oral disease, March 17-19, 1968. (The Alabama Journal of Medical Sciences, v.5, no. 3, July 1968.) Birmingham, Alabama. Pages 239-404. illus.

ALLING, C. C. Facial pain. Philadelphia, Lea & Febiger, 1968. 284 p. illus. \$16.50

ARMSTRONG, H. L. and PERIGOE, J. R. Getting your point across; how to speak and write effectively. Toronto, Federation of Canadian Personnel Association, 1967. 117 p. \$3.50

BALTIMORE COLLEGE OF DENTAL SURGERY. UNIVERSITY OF MARYLAND. Proceedings of the 125th Anniversary Celebration, March 4-6, 1965. Gardner P. H. Foley, ed. 1966. 248 p. illus. \$3.00

BODEGOM, J. C. Experiments on tooth eruption in miniature pigs. University of Nymegen, Netherlands, 1969, 78 p. + Appendix of 74 p. with illus.

BRINKHOUS, H. M., ed. The hemophilias; international symposium, Washington. Chapel Hill, University of North Carolina Press, 1964. 412 p.

BURROWS, W. Textbook of microbiology. I. The biology of microorganisms. II. The pathogenic microorganisms. Ed. 19. Philadelphia, Saunders, 1968. Pages 1-415-974 + Indices. Vol. I. \$12.45. Vol. II \$13.50

CAWSON, R. A. Essentials of dental surgery and pathology. Ed. 2. London, Churchill, 1968. 340 p. illus. \$15.20

GOLDMAN, H. M. et al. Current therapy in dentistry. Vol. III. St. Louis, Mosby, 1968. 1006 p. illus. \$28.05

GURALNICK, W. C., ed. Textbook of oral surgery by 26 authors. Boston, Little, Brown and Co., 1968. 567 p. illus. \$16.50

HARRIS, R. S., ed. Art and science of dental caries research. New York, Academic Press, 1968. 428 p. illus. \$19.25

HEARTWELL, C. M., Jr. Syllabus of complete dentures. Philadelphia, Lea & Febiger, 1968. 456 p. illus. \$18.75

HESKIA, J. E., ed. L'orthodontie française. Vol. 38. Paris, J. Prêlat, 1967. 588 p. illus. 100 F.

LONGACRE, J. J., ed. Craniofacial anomalies; pathogenesis and repair. Philadelphia, J. B. Lippincott Co., 1968. 389 p. illus. \$19.25

MARTENS, P. Human dentinogenesis with special regard to the formation of peritubular crown dentine and zones in fetal deciduous and unabraded permanent teeth; a morphologic, microradiographic and histochemic study. (Odontologisk Tidskrift, Vol. 76, no. 4/5, 1968.) 168 p. + 76 colour plates + 88 black and white microphotographs.

NEILL, D. J. and NAIRN, R. I. Complete denture prosthetics; a clinical and laboratory manual. Bristol, John Wright & Sons Ltd., 1968. 142 p. illus. \$7.25

QUINT, H. Elements of crown and bridge. Ed. 2. Los Angeles, University of Southern California, School of Dentistry, 1965. 355 p. \$14.50

QUINT, H. Freshman operative dentistry information manual. Los Angeles, University of Southern California, School of Dentistry, 1965. Mimeo. 141 p. \$6.50

SCHWARZROCK, L. H. and SCHWARZROCK, S. P. Effective dental assisting. Ed. 3. Dubuque, Iowa, Wm. C. Brown Co. Inc., 1967. 723 p. illus. \$10.25

SPRIESTERSBACH, D. C. and SHERMAN, D., ed. Cleft palate and communication. New York, Academic Press, 1968. 291 p. \$13.25

STAPLE, P. H., ed. Advances in oral biology. Vol. 3. New York, Academic Press, 1968. 308 p. illus. \$19.25

THORNTON, H. L. and KNIGHT, P. F., ed. Emergency anaesthesia. London, Edward Arnold, Ltd., 1965. 451 p. illus. \$16.00

US DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE. Health resources statistics; health manpower and health facilities. Washington, DC, US Government Printing Office, PHS No. 1509, 1968. 260 p. \$2.50

Every coin has two sides

John E. Sparks, the articulate medical care consultant for 4.7 million members and dependants of the United Auto Workers, indulged in some colourful hyperbole at last month's Ontario Dental Association convention. Painting a sombre picture of 'pitiful' dental neglect, he characterized dentistry as a class-oriented cosmetic service geared to the promotion of teeth as a sex symbol. He went on to portray dentists as a closed corporation whose affluent and avaricious members pursue the dollar with single-minded zeal but are callously indifferent to the needs of a long-suffering public. Mr. Sparks backed his charges with some cleverly chosen statistics. He claimed that Canada has one of the lowest dentist population ratios among industrialized nations. He said that dentists' fees have climbed twice as fast as the cost of living index since 1961, and he managed to convey the impression of skyrocketing dental incomes.

All of this makes spectacular newspaper copy, but it only tells part of the story. For example, Mr. Sparks did not mention that wages in manufacturing have outpaced dental fees and that prices in service industries have climbed almost as steeply as dentists' fees. He also chose to remain silent over the question of productivity, a potent contributing factor in the dentist's rising prosperity from earnings that, nevertheless, remain unchanged relative to the incomes of physicians, engineers, architects and lawyers. And Mr. Sparks blandly overlooked the profession's achievements in negotiating and successfully administering extensive prepayment programs for public assistance beneficiaries in at least two provinces.

But these issues cloud the real focus of Mr. Sparks' remarks which lies in his union's commitment to the "provision through prepayment plans of insured services, nationally uniform in scope and definition, from participating providers of service who have a contractual obligation to the carrier and to the patient, to provide fully paid or nearly fully paid services, billing the plans and receiving payments from the plans directly, under policies and controls established by the prepayment plans."

The United Auto Workers, said Mr. Sparks, oppose the indemnity approach to purchasing insurance benefits because "it has no fundamental interest in the quality or level of services being delivered, it offers uncertain economic protection to the purchaser, [and] it cannot build in sound professional policies and controls since it has no contractual relationship with the providers of service." He therefore urged dentists to develop professionally sponsored prepayment plans.

Mr. Sparks reminded his listeners that the United Auto Workers also contemplate an alternative method for delivery of prepaid dental care by adding this service to existing and proposed union-sponsored health centres. Just such a centre, employing salaried physicians, nurses and technicians, was recently opened in St. Catharines. It is therefore time to ask what would happen to dentists, say in Oshawa, if a similar centre were to open its doors in that automobile city and if there were no profession-sponsored prepayment plan in which private practitioners might participate!

A triad: the reader, the author, and the editor

In order to develop and maintain a successful journal, the editor and his staff must recognize the importance of establishing lines of easy communication between the author and the reader. Articles that cannot be read and understood by even a few readers serve very little purpose, other than to add to the huge volume of manuscripts relegated, unread, to the archives of our many fine libraries. At the same time, the editor owes the author an attempt to attract the reader to his article by careful and precise editing, by making a pleasing and attractive display of the title, the subheadings and the illustrations, by giving as much advance publicity as possible to the article, and by continually referring to the article in the issue of the journal in which it is published.

The writer also must recognize a responsibility to the reader. The sensitive and responsible author will realize the importance of keeping his responsibilities in mind as he prepares his manuscript. Writing is a discipline; it is an art. To think of it as anything else is not being fair to the author's talent or to the reader's time. Writing that occurs as an exercise in self-indulgence should be assigned preferably to the author's personal journal.

Editors should know what people are talking about; and that is what should be published in their journals. They should be putting out front what they think is interesting and what is important to their readers. They should have a deep responsibility to the truth. Responsible authors do not pervert or distort their material; responsible editors do not publish articles by authors who are guilty of doing so.

Editors have a responsibility to the readers of their journals to lure them into a manuscript they might not normally read, and to make it so proficient that they will be carried along by it and introduced to new ideas, new concepts, perhaps new experiences they might not obtain otherwise.

Those of us who write need to improve our use of words. Too frequently we cushion our language so that we do not communicate well with each other; we retreat into jargon. We talk about things relevant and meaningful in order to avoid relevance and meaning. We are afraid to communicate because by doing so we become vulnerable. We cannot be creative writers, however, unless we remove our armour completely, and unless we do violence to jargon and platitudes and make ourselves vulnerable. We must not write up or down to people; we should write out of ourselves. These things we must do without concern about readers' reactions. As to the journal in which these things can be accomplished, there need be no concern about its prestige, its importance to the profession it represents, or its reputation in the world of journalism.

G. W. Teuscher

Oui Platon, je t'entends bien

La Société dentaire de Montréal inaugurerait récemment son programme scientifique de l'année 1969 en présentant plusieurs cas cliniques par circuit fermé de télévision à l'occasion d'une journée d'étude à l'Université de Montréal. Ce nouvel outil de l'enseignement moderne illustre bien la transformation complète des voies de communications auxquelles nous devons faire face dans un avenir très rapproché. Marshall McLuhan a déjà dit que "la télévision n'est qu'un seul des éléments qui forment le milieu électrique de circuits instantanés qui a succédé au monde désuet des engrenages et des boulons". Sur un globe qui se rétrécit de jour en jour et où le volume des connaissances scientifiques double tous les dix ans, nous nous trouvons au seuil d'une révolution où la synthèse de la cybernation, des systèmes graphiques, des circuits du broadband et des satellites produira cette flexibilité qui permettra d'effacer les problèmes du temps et de la distance.

La véritable activité du Journal consiste à transporter de l'information: les articles scientifiques, les actualités dentaires et les pages éditoriales. Mais selon McLuhan "la technologie électrique menace cette technologie ancienne de l'écriture basée sur l'alphabet phonétique". Nous devons donc déjà commencer à penser de quelle façon nous allons modifier notre façon de communiquer. Avec la bibliothèque et la discothèque, nous aurons bientôt tous notre "filmothèque". Le procédé E.V.R. (Electronic Video Recording and Reproduction), permettra de choisir le téléfilm, de mettre la cassette dans une boîte branchée sur la prise de l'appareil de télévision, d'appuyer sur un bouton, et d'attendre que le film s'engage automatiquement. L'utilisation du procédé E.V.R. bouleversera l'enseignement en mettant les méthodes audio-visuelles à la portée de tous et en permettant le recyclage à domicile.

Les experts sont d'accord pour dire que dans un avenir assez rapproché chaque foyer sera équipé d'un appareil de communication qui unira les techniques du téléphone, de la télévision, de l'automation et des satellites. M. Alphonse Ouimet, l'ancien président de Radio-Canada pense que l'abonné recevra non seulement les services vidéo-téléphoniques et télégraphiques mais aussi la livraison électronique du courrier, des journaux et des revues. Il est probable qu'un dispositif permettra de faire une copie, si on le veut, de ce qui apparaîtra sur l'écran en poussant sur un bouton.

Le Journal peut donc compter devoir changer sa façon de transporter de l'information. Cela veut-il dire que la revue écrite disparaîtra? Pas du tout! Le Journal continuera à publier des analyses et des comptes-rendus qui doivent rapporter plus que le simple transfert d'information.

Platon a dit que la ville idéale contiendrait seulement le nombre de gens qui pouvaient être rejoints par la voix d'une seule personne sur la place publique. À l'âge électronique, les communications cimentent les communautés en un "village global" et tous peuvent entendre et voir instantanément.

Dans un monde qui change si rapidement, l'avenir commence aujourd'hui.

letters • courier

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space and requires that all letters be signed. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Toute communication doit être signée. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association dentaire canadienne. Vous êtes invités à participer dans cette section du Journal.

Income Tax Exemption

To the Editor:

Recently my records were examined by assessors from the Income Tax Department. For several years I have attended conventions in Alaska, Hawaii, Trinidad and Miami on the strength of your articles in the Journal. These articles stipulate that all records must be kept about dates, hotel bills, fares, etc., but no geographical limitations apparently are in effect. However, the assessor informs me that these will not be allowed as deductible expenses. How can I reconcile this decision with the articles in the Journal?

Is it asking too much for the Association to question the Department and try to get a ruling? I am sure a precedent would be set if it has not already been.

J. P. Ratzlaff, DDS,
P.O. Box 250, Summerland, BC.

The income tax comments regarding conventions that appeared in the Journal prior to the 1968 revision contained the following statement: "There are no geographical re-

strictions and the convention, therefore, need not necessarily have been held in Canada." At the suggestion of the Department of National Revenue this statement was deleted in the latest version of "Federal Income Tax Returns by Dentists" (J. Canad. Dent. Ass. 34:650, December 1968) because, in the view of the Department, there are now geographical restrictions in those cases where a convention is sponsored by a Canadian professional or business organization. The nature of these restrictions was described in the sixth paragraph on page 652 of the 1968 comments on convention expenses.

A Canadian who practises a profession may still attend a convention anywhere outside Canada and claim a deduction for reasonable expenses attributable thereto provided the convention is sponsored by a non-Canadian professional or business organization and attendance at the convention was for professional or business reasons.

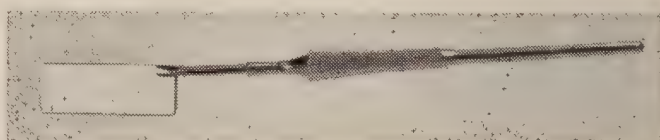
The rule in the Income Tax Act remains in effect that a claim may not be made for expenses in attending more than two conventions in the taxation year. (Ed.)

Parallelometer Mirror

To the Editor:

I have developed a new instrument, the 'Parallelometer Mirror,' to aid in preparation of crowns, bridge abutments, precision abutments for removable dentures and splinting mobile teeth. The mirror is rectangular, has rounded corners, is reflective on both sides and has nine parallel grooves engraved on both sides at right angles to the long axis of the mirror.

The instrument can be used to ensure that preparations intended for bridging or splinting are suitably inclined for insertion of the intended prosthesis. The dentist can examine abutments in the course of preparation and compare the axes of all other teeth more accurately than by direct observation. Posterior teeth may be visualized more clearly. By projecting all the teeth in a quadrant onto a



fixed plane, the dentist can view them at right angles and determine the amount of further reduction required. He can also view the teeth in the direction of the proposed path of insertion of a bridge, while also obtaining a clear view of the occlusal surface, thereby providing a double check of the lateral surfaces on all preparations.

The parallelometer mirror has been tested in our university clinic and by several practising dentists. I would be grateful if one of your readers could also test the mirror.

*Prof. Dr. H. Böttger,
Westdeutsche Kieferklinik,
Himelgeister Strasse 152,
Düsseldorf, West Germany.*

Dr. Böttger's letter and instrument were referred to Dr. R. E. Jordan at the University of Western Ontario who reports:

To the Editor:

Thank you for sending Dr. Böttger's "Parallelometer Mirror" for evaluation. I have asked Dr. Walter Teteruck, of our Division of Fixed Prosthodontics, to try the instrument clinically and he has done so for the past several weeks.

Dr. Teteruck regards this instrument as a gadget that may possibly, in certain situations, serve as somewhat of an aid in determining parallelism for crown and bridge procedures. It is not easily adapted for use in the anterior arch segments, however, because of its length, and we experienced difficulty in many posterior situations because the mirror is not sufficiently offset relative to the handle.

The instrument may possibly be of some use to the general practitioner, but its usefulness is limited.

*R. E. Jordan, DDS, MSD,
Professor and chairman,
Department of Restorative Dentistry,
University of Western Ontario,
London, Ont.*

Zinc Phosphate Cement and Calcium Hydroxide Mixtures

To the Editor:

In our article on punch shear strength of zinc phosphate cement and calcium hydroxide mixtures (J. Canad. Dent. Ass. 35:72, 1969) we unfortunately failed to distinguish between the calcium hydroxide mixtures

and one proprietary material (Cavitec), which is based on zinc oxide and eugenol. This lack of discrimination does not affect the strengths measured and the conclusions reached.

We are gratified by the interest shown in this omission.

*R. H. Roydhouse, BDS, MS,
D. R. Lewis, DMD,
Faculty of Dentistry,
University of British Columbia,
Vancouver 8, BC.*

Six Orthodontists Graduate from Université de Montréal

To the Editor:

As secretary of the senior orthodontic class it gives me great pleasure to announce the graduation of six orthodontic students from the Université de Montréal. Their names and practice locations are:

A. F. Corti, Dearborn, Michigan
D. E. Woodruff, Corpus Christi, Texas
A. Fontenelle, Université de Montréal Orthodontic Clinic
D. S. Flam, Montreal
W. E. Russell, Windsor, Ontario
E. W. Gherasim, Regina.

*E. W. Gherasim, DDS,
Orthodontic Department,
Université de Montréal.*

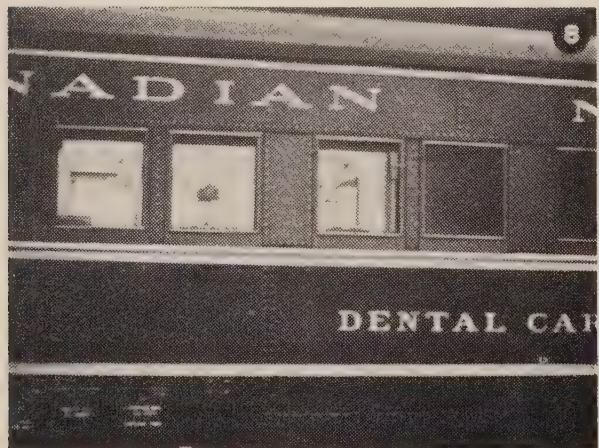
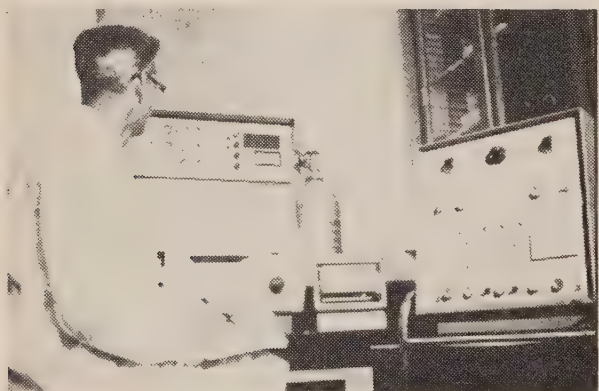
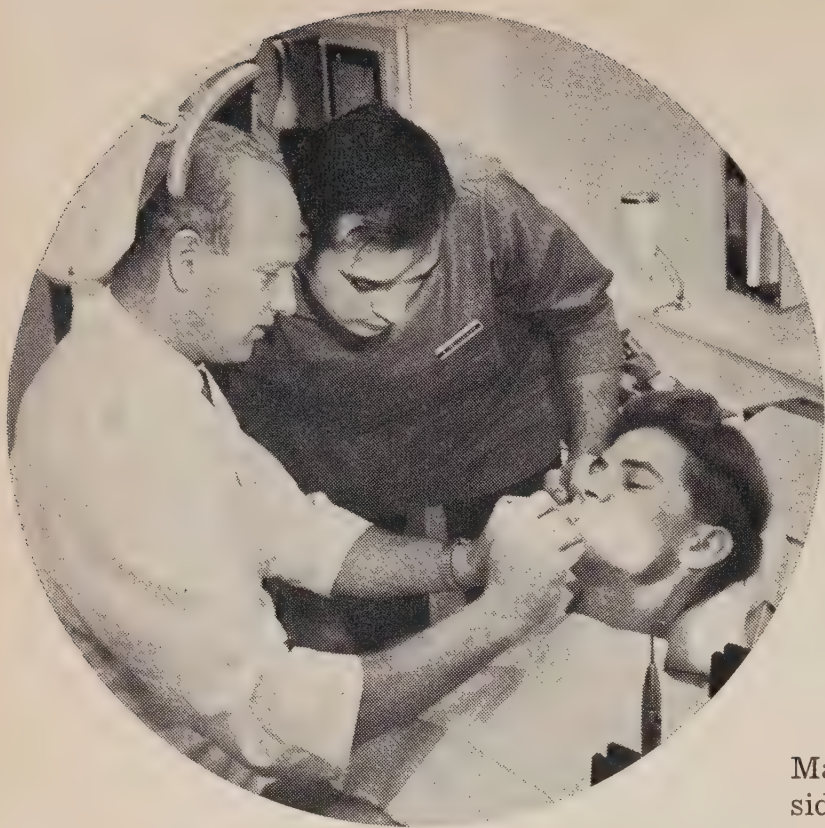
FDI Articles

To the Editor:

With the publication of "The FDI and Its Future" in your March issue, the recent series of FDI articles came to an end and I write on behalf of the Federation to offer to you and your staff our thanks and appreciation for the fine way in which the articles have been presented and for the space provided for publicizing the Federation and its programs.

The articles are being copied in many parts of the world in various languages and your idea for this presentation will, I know, be of the greatest value to the Federation.

*Gerald Leatherman,
FDI Secretary General,
64 Wimpole St.,
London W.1, England.*



Many fourth year dental students consider public health courses unimportant to the dentist. This view emerges from a recent report of opinions of dental students, dentists, and consultants or administrators from 10 other health disciplines about subjects that concern dentistry and the health of the public. Purpose of the survey was "to identify attitudinal road-blocks to teamwork within dentistry and between it and other professions and agencies with which it is associated in organized efforts to contribute to a higher level of community health." The report, released in April, is one of a series that resulted from federally aided research conducted by the University of British Columbia in cooperation with the Canadian Dental Association and its corporate members.

The investigators found that students are motivated by considerations of future income and prefer to settle in large urban areas. They also exhibit strong interest in dental auxiliaries and in collaborating with other health professions but manifest little interest in research, teaching and contributing to dental literature. "Apparently some of the most significant of the social philosophies of the dentist are brought into the profession by the students and little, if any, is acquired from dental education," says the report.

Practitioners and students believed that dentally neglected people are educatable and that treatment at public expense should be limited or withheld pending education and the use of preventive

Attitudes to public dental programs

SURVEY GARNERS OPINIONS FROM 1,364 DENTAL STUDENTS, DENTISTS AND REPRESENTATIVES OF 10 OTHER HEALTH DISCIPLINES ABOUT SUBJECTS THAT CONCERN DENTISTRY AND THE HEALTH OF THE PUBLIC

measures. Both favoured this policy for children.

First year and fourth year students, practitioners and public health dentists agreed that fluoridation and health education should precede treatment of children in a community which can afford all three. This puzzled the investigators who commented: "Why treatment should be delayed in either the individual or the collective patient who can afford it, or how in either case anybody would know when education had reached a point where treatment could be initiated would require a superhuman degree of insight and in the meantime dental disease would progress." This notion, they pointed out, pervades dentistry from the first faltering steps of the first year student and does not have its origin in the professional education of dentists. They suggested that the idea derives from the students' socio-economic background.

The survey showed that dentists tend to resent dental neglect as much as, or possibly more than, they regard it as a professional challenge. Eighty per cent of dentists thought that assurance of adequate payment had an important bearing on the quality of dental services. Three out of four dentists believed the quality of care is related to the method used to compensate them. Conversely, some felt that the competence of a dentist may be judged by the method of compensation which he selects. Whether or not this may be a dental fetish is important to public dental programs and should be investigated, the report says.

Students and non-dental administrators attached greater importance to auxiliaries than the dentist. Students and dentists gave strong and almost equal support to group practice.

Interprofessional teamwork in comprehensive health programs received strong support from first year and fourth year students, dentists and administrators.

Recruitment of women into the profession received strong support from dentists, but even stronger support from non-dental administrators. The high support by the latter group may arise from the number of women in the 10 health disciplines represented by this group.

Students and practitioners showed a lack of information about the training, work, responsibilities and motivations of dentists in public health. "It is important to public dental programs and to the profession that the work and the relationships of the public health dentists become better known throughout dentistry," the report asserts.

An authoritative consensus on the importance of dental conditions in the health of the public is provided by the responses of the administrators. Eighty-one per cent ranked dental conditions as "very" to "moderately" important. This leaves little doubt that public dental programs will expand, says the report.

Dentists and students exhibited some doubt about their commitment in promoting fluoridation. Both gave strong support to the evaluation of public dental programs in terms of cost, effectiveness and quality of treatment. This concept was

Capsule Conclusions

First year students believe the dentist:

Works with his hands. Works for himself. Has monetary advantages and a particular style of life

Dentist's income:

Students lack reliable information on dental incomes

Students' valuation of non-practice activities:

Research: low rating. Writing professional and scientific articles: low rating. Teaching in dental schools: low rating. Participating in organized dentistry: moderate rating

Fluoridation:

Students and dentists are confused over what dentists should know and do about it

Public health instruction:

Students are dissatisfied with public health courses

Teamwork:

Undergraduate education must stress interprofessional collaboration and more effective teamwork among dental personnel of all types

Social science:

Undergraduate education must place greater emphasis on social science applicable to dental practice

Quality of care:

The profession and health program administrators favour evaluation of the quality of services in public dental programs. The attitude of most dentists toward patients in public dental programs is influenced by the public source of payment. Many dentists contend that public assistance beneficiaries receive treatment of a lower quality than that rendered to private patients. Many dentists believe that the quality of dental services is related to the method of compensation. Most dentists believe there is an important relationship between the quality of dental care and assurance of adequate compensation

Work of public health dentists:

Practising dentists have limited knowledge of the work of public health dentists and the relationship of their services to those of the rest of the profession

supported even more strongly by the administrator group.

The report is the culmination of more than four years' intensive research by a study team headed by H. K. Brown and D. J. Yeo of the University of British Columbia, Vancouver, and K. F. Pownall, registrar of the Royal College of Dental Surgeons of Ontario, Toronto. Their survey encompassed opinions on a broad range of subjects related to public dental programs. It included the views of 336

first year and 267 final year dental students, 567 practising dentists, 57 public health dentists, and 137 senior non-dental health administrators and consultants representative of 10 different health disciplines. The high percentage of response was matched in all groups by its quality. Besides answering all or most of the questions, the five groups offered about 4,000 comments. The dentists alone offered more than 3,100 comments.

dentistry in the news

The Association

Alberta Association Raises CDA Grant to \$65

The Board of Directors of the Alberta Dental Association, on April 19, voted to raise Alberta's per capita grant to the Canadian Dental Association from \$60 to \$65, according to G. E. Decker, secretary of the Alberta association. In a letter to CDA Secretary W. G. McIntosh, Dr. Decker wrote: "...The Alberta Dental Association certainly wishes to be classed with the corporate bodies that are paying the grant which is required to handle the costs of administering CDA."

Alberta is the fifth province to raise its grant to the \$65 level. The others are Newfoundland, Nova Scotia, New Brunswick and British Columbia.

Hospital Services Committee Acts on Hospital and Internship Accreditation

The CDA Hospital Services Committee, at its March 27 meeting, considered a resolution from the Ontario Dental Association bearing on hospital dental services and internship programs. The resolution asked that the CDA "transfer the responsibility of accrediting hospital dental service and internship programs to the individual provincial licensing bodies."

The committee noted that the CDA Executive Council, Council on Education and Auxiliary Services Committee had already expressed disagreement with the ODA resolution. After further consideration, the Hospital Services Committee adopted the following resolution:

"Whereas approval at the national level of hospital dental services and facilities

permits both interprovincial and international recognition of such services and facilities, and whereas CDA approval of hospital dental services and facilities is a prerequisite for national approval of hospital dental internship programs, and whereas dental participation at the national level is essential for effective liaison with the Canadian Hospital Association and the Canadian Council on Hospital Accreditation, and whereas CDA approval does not preclude approval at the provincial level, therefore be it

"Resolved, that the CDA continue to approve, on request of the individual hospital and in consultation with provincial hospital services committees, hospital dental services and facilities across Canada."

Mouth Cancer Deaths Down, Commons Committee Told

Despite a marked increase in tobacco consumption, the mortality from oral and pharyngeal cancer has declined among Canadian men and has not changed among women. The statement was made April 24 by CDA representatives who testified before the House of Commons Standing Committee on Health about the influence of tobacco on oral health.

C. H. M. Williams and D. L. Anderson of the University of Toronto's Faculty of Dentistry said the most incriminating evidence that tobacco causes oral cancer is against chewing tobacco. Those who smoke heavily have more gingivitis and periodontic disease than light smokers or non-smokers, they said.

In a brief to the committee, the Association reported results of US studies indicating that:

Oral cancer is more prevalent in smokers than non-smokers;

Heavy smokers are twice as common among oral cancer patients as in control groups; and

Mortality from oral cancer is greater in smokers.

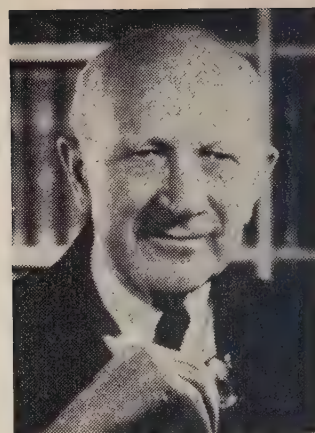
Cancer Films Available

On advice from the Council on Education, the Canadian Dental Association has acquired two more prints of the 18 minute, colour, sound film *Oral Exfoliative Cytology* in order to give better service to dentists across Canada. Other cancer films available under CDA auspices are *Oral Cancer* (colour, sound, 31 minutes) and *The Dentist and Cancer* (colour, sound, 21 minutes). Restricted to the profession, these well-recommended films may be loaned free of charge by applying to the distributor: Modern Talking Picture Service, Inc., 1875 Leslie St., Don Mills, Ont. Telephone: 444-7347 (area code 416).

National Convention

International College Canadian Section Meets in Montreal July 9

The Canadian Section of the International College of Dentists will hold its annual meeting at the Queen Elizabeth Hotel, Montreal, July 9. The college will give a reception in the Richelieu Room at 6.30 p.m. A dinner will follow in the St. Laurent Room at 7.30 p.m. Wilder Penfield,



Wilder Penfield, world-renowned neuro-surgeon, educator, humanist and founder of the Montreal Neurological Institute,

will be honoured by the Canadian Section, International College of Dentists, July 9.

world-renowned Montreal neuro-surgeon, educator and humanist, will be honoured by the college this year. J. A. Fortier, president of the college's Canadian Section, will preside at the meeting.

Alpha Omega Hospitality Room

There will be an Alpha Omega Hospitality Room during the CDA national convention at the Queen Elizabeth Hotel in Montreal July 7-9. All Alpha Omegas are welcome.

International items

US Army to Commission Dental Hygienists

The US Army has authorized the commissioning of dental hygienists, Major



Hands around the world are exemplified in this picture taken at the last annual meeting of the International College of Dentists in Miami, October 26, 1968. Shown at the head table, left to right, are K. E. Veluswamy, India; B. B. Erana, Philippines; Guillermo Riquelme, Mexico; Armand Fortier, Montreal, Canada; Rio Yamauchi, Japan; and Jacques Fouré, president-at-large, France.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on April 30:

Government Bond Fund \$13.896;

Corporate Bond Fund \$15.058;

Common Stock Fund \$26.972.

Total assets (market value) of the plan were \$10,042,305.79 (up from \$9,989,708.50 in March).

The following common stock portfolio purchase occurred during the preceding month: 4,000 shares Barnes-Hind Pharmaceuticals.

For further information please write to the Administrator of CDA-sponsored Pension and Insurance Plans, Professional and Industrial Pensions Ltd., 2249 Yonge St., Toronto 295, Ont.

General R. B. Shira, Chief of the Army Dental Corps, has announced. Dental hygienists with baccalaureate degrees will be commissioned in the ranks of second lieutenant through captain, depending upon their experience. Hygienists commissioned as officers will become members of the US Army Medical Service Corps and will be known as military community oral health managers.

Dental Organizations

Quebec Oral Surgeons Install Dr. Donohue

Four interesting cases were presented at the annual clinical evening of the Association of Oral Surgeons of Quebec held at the Montreal Jewish General Hospital March 26. Jean Bertrand, Montreal, discussed a retention cyst of the sinus and the difficulties in diagnosis; Gary Freedman, Montreal, gave an account of a tumour of the mandible which turned out to

be a cementifying fibroma; Chicoutimi dentist, Gerald Dufour, outlined the principles of orthodontic surgery and presented two cases of maxillary prognathism which had been treated by oral surgery; and K. C. Bentley, Montreal, reviewed the signs and symptoms of an unusual case of hyperparathyroidism.

W. B. Donohue, Montreal, was elected president of the AOSQ for 1969-70. He succeeds Gérard de Montigny, also of Montreal. A. T. Charest, Quebec City, is vice-president. Other members of the executive are Montreal dentists Jean Bernard and Mervyn Gornitsky, secretary and treasurer respectively, and E. P. Millar and Antoine Raymond, councillors.

Canadian-American Oral Surgeons Meeting Set in Montreal

More than 300 Canadian and American oral surgeons are expected to attend a joint conference on oral surgery at the Château Champlain, Montreal, August 7-9. The meeting is sponsored by the Canadian Society of Oral Surgeons in association with a group from the American Society of Oral Surgeons.

A clinico-pathological conference is set for the Friday August 8 morning session at the Université de Montréal. Participants will be given information, shown slides and radiographs of various cases, and asked to vote on their diagnosis and treatment. The results will be analysed by a computer, marking the first time that computers have been used at a dental meeting in Canada. The Friday afternoon session, to be held at McGill University, will feature a symposium on dental infections.

For further information, contact W. B. Donohue, Suite 513, 1414 Drummond St., Montreal 107, Que. or Guy Maranda, 465 rue St-Jean, Québec, Qué.

K. L. Croft Appointed to BC Post

Ken L. Croft, former deputy secretary of the Canadian Dental Association, was appointed managing director of the College of Dental Surgeons of British Columbia

June 1. He succeeds W. Ross Upton, Vancouver, who resigned March 15 as executive director of the College, the BC Dental Association and the Vancouver and District Dental Society.



K. L. Croft

Mr. Croft was latterly executive director of the Ontario Federation of Construction Associations. He left the CDA in April 1967 after serving as deputy secretary and director of public information since 1957. In his nine and a half years on the CDA staff, Mr. Croft was concerned with the activities of all councils and committees and the Board of Governors, national conventions, public information, fluoridation, science fairs and dental education.

A graduate of the University of Western Ontario, Mr. Croft holds memberships in the Institute of Association Executives and the Canadian Public Relations Society.

Dental Education

Royal College Convocation Set for Montreal

The 1969 convocation of the Royal College of Dentists of Canada will be held on Saturday morning, July 12, at Redpath Hall, McGill University. Honorary fellowships will be conferred on P. G. Anderson of the Faculty of Dentistry, University of Toronto, and H. E. Bulyea of Edmonton. Fellowships by examination will also be conferred. The convocation will be fol-

lowed by a reception and luncheon and by the annual meeting of the College. Dr. P. G. Anderson will deliver the convocation address. The speaker at the luncheon will be M. A. Rogers of McGill University, Montreal.

Royal College Proceeds With Recognition of Non-Specialist Experts

The Royal College of Dentists of Canada has begun to implement Section 3 (d) of its act of incorporation, according to J. E. Speck, registrar-secretary. Section 3 (d) enables the College "to provide for the recognition and designation of dentists who possess special qualifications in areas not recognized as specialties." It is anticipated that some fellowships will be conferred under this section at the 1969 Montreal convocation.

Fourteen Dentists Earn Royal College Fellowships

The Royal College of Dentists of Canada has announced the names of 14 dentists who successfully passed the recent initial interim examination. They are now eligible for fellowship in the College. They are:

Orthodontics: W. D. Kirstine, Victoria; R. M. MacAllister, Vancouver; A. C. Mendel, L. L. Prosterman and M. D. Rennert, Montreal; P. G. Peloso, Kitchener, Ont.; S. Rosenthal, Toronto; and T. Wachna, Windsor;

Paedodontics: R. S. Margolis, Edmonton;

Periodontics: M. M. Dines, F. I. Muroff and A. S. Wainberg, Montreal; and M. Poplove, Ottawa;

Prosthodontics: R. G. Jones, Montreal.

CFDE Awards \$39,200 in Fellowships, Sets New Record

Twenty-two dentists and one dental hygienist will receive a total of \$39,200 in teacher training and research fellowships for the 1969-1970 academic year. The an-



Once every year the advisory committee on fellowship awards of the Canadian Fund for Dental Education screens applications for teacher and research training assistance from the Fund. Pictured at the April 12 meeting of the committee are (left to right) W. H. Feasby, London; J. W. Neilson, chairman, Winnipeg; M. C. Johnston, Toronto; and W. G. Campbell, Winnipeg.

nouncement was made by J. D. McLean, Halifax, chairman of CFDE's Board of Trustees.

The 1969 awards went to:

E. J. Abrahams, Ottawa, first year prosthodontics at Boston University;

G. Cuzacq-Hall, Montreal, in first year public health at Harvard University;

P. Désautels, Saint-Laurent, Que., in first year dental materials at Indiana University;

E. J. Friedberg, Toronto, completing studies in growth and development at the University of Toronto;

S. Galperin, Montreal, for research in periodontic tissues at New York University;

D. J. Gau, Edmonton, in final year dental materials at Indiana University;

R. Jackson, Montreal, in final year orthodontics at the State University of New York at Buffalo;

P. A. Konchak, Toronto, in first year paedodontics, oral pathology and oral medicine at Boston University;

Miss D. F. Mayers, dental hygienist, North Vancouver, in the BSc degree program in dental hygiene at the University of Washington;

J. M. Murray, Winnipeg, in final year orthodontics at the University of Manitoba;

J. M. Plecash, Victoria, in first year oral pathology at the University of Alberta;

S. W. P. Sapkos, Edmonton, in first year periodontics at the University of Washington;

A. Vaillancourt, Montreal, in first year prosthodontics at Ohio State University; and

F. L. Zarb, Toronto, in final year prosthodontics at New York University.

Fellowship renewals for 1969-70 went to:

A. Bowman, Montreal, in final year prosthodontics at Indiana University;

E. Freeman, Toronto, in oral histology at the University of Toronto;

E. J. Hannigan, Armdale, Nova Scotia, in final year periodontics at Boston University;

S. M. Kennedy, Westmount, Que., in final year prosthodontics at Boston University;

P. P. Lamontagne, Montreal, in final year restorative dentistry at the University of Michigan;

T. P. McCrory, Westmount, Que., for one year of research in oral pathology at Georgetown University;

J. P. Sapp, Halifax, in final year oral pathology at the University of Michigan;

G. Z. Wright, Winnipeg, in final year paedodontics at Indiana University; and

I. I. Zamikoff, Toronto, in final year prosthodontics at the University of Michigan.

Dr. McLean said this year's awards represent a new record for the fund in terms of both dollars invested and number of applicants assisted. He praised dentists, dental organizations and companies whose contributions underwrite the Fund's fellowship program. Contributions to the Fund in support of dental educa-

tion more than doubled in 1968, said Dr. McLean.

CFDE's advisory committee on fellowship selection reviewed 30 applications for the 1969-1970 awards. Since 1964 CFDE has awarded more than \$100,000 in fellowships to help train urgently needed dental teachers and researchers.

CFDE Awards \$10,000 to Canadian Dental Schools

Each of 10 Canadian dental schools has been awarded \$1,000 unrestricted grants according to L. P. Lepine, a trustee of the Canadian Fund for Dental Education. The money is to be used for educational needs not provided for in faculty budgets. Since 1965 CFDE has awarded \$34,000 in unrestricted grants to dental schools.

Education Fund Allocates \$5,000 to Faculties Association

M. J. Lipkind, a trustee of the Canadian Fund for Dental Education, has announced the award of \$5,000 to the Association of Canadian Faculties of Dentistry. CFDE has awarded a total of \$14,000 to ACFD since the latter's formation in 1966.

Education Fund Aids Field Training Project for Dalhousie Students

The Canadian Fund for Dental Education has awarded \$5,000 to Dalhousie University in support of a pilot study to test the value of summer field experience for undergraduate students. Purpose of the project is to supplement academic instruction in social and public health dentistry with a period of practical experience in a community in order to acquaint students with dental health needs in the community and the available methods for meeting these needs.

Proposed site of the pilot project will be a community which has no facilities for dental treatment. Termed a child care program, the project will offer preventive and remedial services including re-

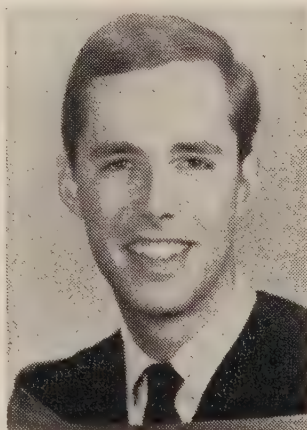
lief of pain and treatment of acute infection, necessary bitewing and periapical radiographs, prophylaxes and topical fluoride applications, oral hygiene instruction, amalgam and silicate restorations, and pulpotomies for deciduous molars (in preference, where possible, to extraction and space maintenance). The project will also feature community-wide dental health education.

Personnel will include two fourth year dental students, two second year dental hygiene students, two third year dental students (as dental assistants), a locally recruited receptionist-secretary and a supervising staff member from the Dalhousie faculty.

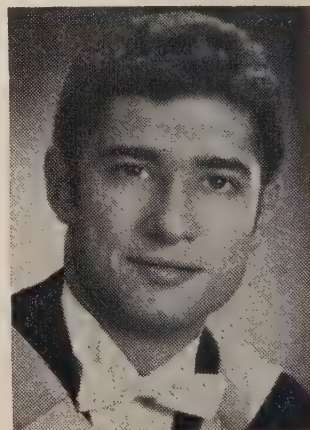
Total cost of the 10 week project is estimated at \$7,300. The CFDE grant will cover student salaries and living accommodation for the group. The university will pay the salaries of university staff and will furnish mobile equipment, hand instruments and other supplies. The community will pay the salary of the receptionist-secretary. Other revenue will accrue from fees charged for services rendered. These fees will be based on Dalhousie clinic fees.

Students at McGill and Toronto Earn War Memorial Essay Awards

The CDA Council on Education has announced the names of prize-winning students in the 1968-69 War Memorial Award competition. They are: D. W. Davis, McGill University, first prize, and H. L. Henry, University of Toronto, second prize.



D. W. Davis



H. L. Henry

The awards of \$200 and \$100 go to the two final year students at Canadian dental schools who, in the opinion of the judges, submit the best essays on an assigned topic. This year's topic was "Endocrines: Their Relationship to Dental Development and Their Effect on the Teeth and Supporting Structures." The awards commemorate Canadian dentists who gave their lives in World Wars I and II.

Economics

Loans Offered to Attract Dentists to Rural Manitoba

The Manitoba government hopes to attract physicians and dentists to rural areas of the province with \$5,000 loans that can be written off with three years of rural practice. The trial plan was unveiled April 2.

The loans, said provincial Health Minister George Johnson, are not subsidies but grants to permit physicians or dentists to establish practice in certain rural areas approved by the government. They will be made through a chartered bank.

The government will repay the bank \$1,000 in the first year, \$1,500 the second and \$2,500 during the final year if the recipient continues to practise in the agreed area. If he leaves before the loan is repaid, the province will cease its payments and the balance will be his personal obligation to the bank.

Dr. Johnson said the Manitoba Medical Association and Manitoba Dental Association had approved the program in principle.

Prince Edward Island Increases Dental Student Aid

The Prince Edward Island government has begun to promote a dental student loan program that will lend up to \$3,000 annually interest-free until one year after graduation to boys and girls wishing to enter dentistry. The loan was formerly \$1,500.

The province is suffering from a short-

age of dentists — the number of dentists is decreasing while the population is increasing — according to the Hon. Bruce Stewart, minister of health. The increased student loans are designed to stimulate recruitment of dental students. Mr. Stewart also said that dental practice establishment loans are available up to \$2,000 for the establishment of a dental office and \$10,000 for necessary dental equipment. Recipients of either loan must agree to practise in the province for not less than three years.

Nova Scotia Medicare to Cover Some Dental Procedures

Certain services of dentists, when performed in a hospital, are being covered by Nova Scotia's Medical Services Inc. with effect from last April 1.

In making this announcement, R. M. Black, chairman of the province's Medical Care Insurance Commission, said that coverage applies only to surgical dental services that are medically required to be rendered in hospital.

Nova Scotia, along with Manitoba and Newfoundland, joined the federal medicare scheme April 1. Two other provinces — Saskatchewan and British Columbia — joined earlier.

Alberta Corporation Offers New Prepaid Dental Plan

The Alberta Dental Service Corporation has announced a new prepaid dental plan covering all dental costs up to \$100 a year. This 'fully paid benefits plan' is more comprehensive than the corporation's other 'indemnity co-insurance plan.' It covers all types of dental treatment, including orthodontics, which is excluded from the indemnity plan.

Both plans are for groups of more than 25 persons only. The new plan must have 100 per cent participation within the group, whereas the indemnity plan requires only 75 per cent participation. Both plans provide for employer, association or union participation in the payment of premiums.

The new plan costs about \$3.73 a month

PREPAYMENT: Union Official Tells Dentists to Set Up Their Own

J. E. Sparks, Detroit, senior medical care consultant of the United Auto Workers Union, urged Ontario Dental Association convention delegates May 19 to move into prepayment through professionally sponsored plans based on preventive and maintenance services and providing a comprehensive range of benefits.

He characterized Canadians' dental health as 'pitiful' and charged that Canada's ratio of one dentist for 3,039 people is lower than in any industrialized country except Ireland and Belgium and has been getting steadily worse since 1954.

He said that dental fees had climbed nearly 43 per cent since 1961, compared to 28 per cent for physicians' fees and 20 per cent for the general consumer price index. Dentists' net incomes after expenses rose 45 per cent between 1961 and 1967, he said.

"Given acute dental personnel shortages, a very uneven provincial distribution of personnel, and dental care costs rising over twice as fast as general prices, how long can you expect the consuming public to leave the world of dentistry solely to the dentist?" he asked.

Mr. Sparks maintained that dentists have failed to remove economic deterrents to regular preventive care and treatment through the development of both private and public prepayment programs. Except in British Columbia and Alberta, there is an obvious lack of initiative and commitment to the field of professionally sponsored prepayment in Canada, he claimed.

"Let this matter drift," Mr. Sparks warned, "and dental insurance will be 'captured' by the private insurance industry and by Blue Cross-Blue Shield Plans seeking to expand into new areas."

Mr. Sparks took sharp issue with an Ontario Dental Association policy which stipulates that prepaid plans must not involve the dentist as a contractual party. He said the principle is directly contrary to principles guiding the best professionally sponsored dental service corporation plans in the United States. "Your prepayment plans must play a fundamental role, through a contractual relationship with dentists, in quality and cost control and in fostering sound professional objectives based on the needs of the patient," he said.

Mr. Sparks, a Canadian who helped to develop the Canadian Hospital Insurance Program and the Saskatchewan Medical Insurance Plan, addressed dentists attending the ODA's 102nd annual meeting in Toronto.

Commenting on portions of Mr. Sparks' remarks, the CDA Bureau of Economic Research points out the following facts:

1. Of 26 countries which responded to a recent FDI survey on specialization in dentistry, Canada ranked eleventh in terms of dentist population ratios. Britain and Australia, for example, had lower ratios than Canada.

2. Though dentists' fees may have climbed 43 per cent from 1961 to 1968, average weekly wages in manufacturing rose by 46 per cent from 1961 to November 1968. Looked at in another way, dentists' fees rose by an average of 4.2 per cent a year during the 10 year period 1957-67, while the consumer price index for all service industries climbed annually by an average of 3.7 per cent during the same period.

3. Bigger fees account for only a part of the dentist's rising net income. Not mentioned by Mr. Sparks is the effect of increased productivity.

4. Despite a higher income, the dentist's position relative to incomes of other professional groups has remained unchanged. His professional earnings increased by 40 per cent from 1961 to 1966. Comparable figures for other professions are: physicians 48 per cent, engineers and architects 47 per cent, lawyers 38 per cent.

5. The reproach that dentists have failed to remove economic deterrents by developing private and public prepayment programs is unjustified in view of the profession's long and impressive record in pioneering and administering extensive dental programs for public assistance recipients in Alberta and Ontario. Mr. Sparks has also overlooked current negotiations over prepaid dental care between the Nova Scotia Dental Service Corporation and Maritime Medical Care.

for a single person and about \$10.53 a month for a family of three or more. It covers \$100 in dental costs per person each year, with a maximum of \$300 per family. In contrast to the 100 per cent coverage of the new plan, the indemnity plan provides only 70 per cent coverage of most dental costs and only 50 per cent coverage for dentures, crowns and bridges and cosmetic care. In both plans a patient pays his dentist and is then reimbursed by the ADSC.

Alberta's legal society recently voted to accept the indemnity insurance plan. Retail clerks employed by Safeway and Dominion stores have exhibited interest in the fully paid benefits plan.

Research

Report Urges Major Changes in Science Council

The establishment of a new type of grant for research into public issues and sweeping changes in the organization of federal research fund-granting bodies were recommended in a report released April 24.

The report, co-sponsored by the Science Council of Canada and the Canada Council, is known as the Macdonald report after J. B. Macdonald, dentist and former president of the University of British Columbia, who directed the study.

New grants proposed in the report would foster large-scale, multidisciplinary research concerned with public issues like transportation, urban planning, pollution, crime and mental health.

Other recommendations include:

— Reconstitution of the Medical Research Council as a Health Sciences Research Council, authorizing it to support research in all sciences related to health; and

— Reconstitution of the National Research Council, divorcing it from its present laboratories, so that its sole responsibility will be to support university research through grants.

Far-reaching changes are recommended in the structure of the Medical Research Council which supports research in medi-

cine, pharmacy and dentistry. "... We believe that the mandate of the Medical Research Council should be broadened to include all the health sciences," the report says.

"We recognize that the Department of National Health and Welfare may still wish to support research in such fields as public health either directly or through the medium of the provinces. From our perspective this is entirely appropriate. What is important is that researchers in each of the health sciences recognized by universities have a council, with no mission other than research, to which they can turn."

The Science Council of Canada is the federal government's science policy advisory body, an independent group made up of representatives of universities, government and industry.

Until last November the Science Secretariat was the council's research arm and also advised the cabinet on day-to-day matters of science policy. These functions were thought to be conflicting; so the secretariat was separated from the council, and the council got its own research staff. The secretariat now serves the cabinet only.

The report presents the opinions of the authors and not necessarily those of the secretariat or the council. The council will use the report as the basis for its own recommendations to be published later.

Fluoridation

Fluoride Termed an Essential Dietary Ingredient

Under new dietary recommendations made by the US National Research Council fluoride has been declared an essential dietary ingredient and the fluoridation of public water supplies has been urged. Other recommended minerals are calcium, phosphorus, iodine and iron.

Awards and Honours

Honorary membership was conferred on **W. Ross Upton** by the Vancouver and District Dental Society on March 4. He is the fifth dentist to be so honoured. Dr.

They're for Us

The Citizens' Committee for Better Teeth thinks Brantford deserves a bit of national recognition.

A letter received by city council Monday night from S. J. Gallagher, of Vancouver, secretary of the organization, states:

"Our committee is keenly interested in the development of fluoridation.

"Your city has the most widely-known research project

on fluoridation in Canada. In 1970 it will be your 25th year of controlled water fluoridation.

"We think this event is sufficiently noteworthy to have national recognition.

"One suggestion from our committee was that a special stamp be issued to commemorate the event.

"May we have your council's reaction to the idea?"

Council referred the matter to its executive committee.

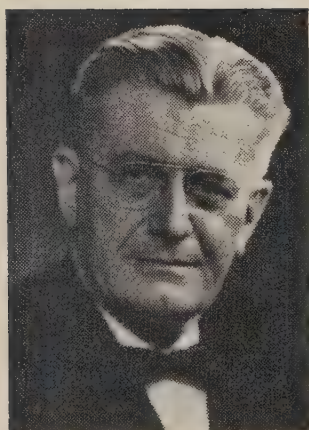
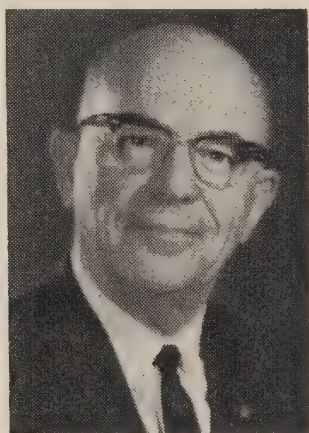
Brantford, Ontario, marks the 24th anniversary of fluoridation this year. The city's water has been fluoridated since June 20, 1945. Brantford was the first municipality in Canada and one of

the first three in the world to have controlled fluoridation. The others are Grand Rapids, Michigan, which began to fluoridate in January 1945, and Newburgh, New York, which began in May of the same year. Vancouver's dental director, S. J. Gallagher, has suggested the issuance of a special postage stamp to commemorate the event as the above clipping from the "Brantford Expositor" shows.

Upton resigned March 15 after serving almost 13 years as executive director of the VDDS, the BC Dental Association and the College of Dental Surgeons of BC.

Toronto dentists **G. T. Mitton** and **J. H. Johnson** were elected honorary members of the Ontario Dental Association at the ODA annual meeting in Toronto May 18-21. Dr. Mitton is a former head of the Department of Dental Public Health at the University of Toronto and served 20 years as field secretary of the Dental

G. T. Mitton



J. H. Johnson

Public Health Committee of the ODA. Dr. Johnson is professor emeritus of Toronto's Department of Oral Surgery. He was chairman of the editorial board of *Oral Health* for almost 15 years and is currently editor of the *Journal of the Ontario Dental Association*.

Deaths

Cabling, N. D. 41. St. Alban's, Bay d'Espoir, Nfld. Centro Escolar School, Manila, 1952. 12-4-69. Survived by Luisa (wife); Cynthia Marie (daughter); his father, three brothers and four sisters.

Des Rosiers, Pierre. 54. Rosemont, Qué. Université de Montréal, 1939. 17-4-69.

Survécu par Aline (épouse); Alain et Christian (fils); le Dr Louis et Jacques (frères); et Mme Lodois Mainville, Mme Henri Dugas et Mme Jean-Serge Denis (soeurs).

Greenberg, Norman H. 63. Winnipeg. University of Toronto, 1929. 30-4-69. Survived by Rose (wife); Dr. Leonard (son); and Lois Heneteleff (daughter).

Hilliker, Arthur Ellwood. 77. Scarborough, Ont. Royal College of Dental Surgeons of Ontario, 1921. 28-4-69. Survived by Kathleen (wife); John (son); and Margaret (daughter).

Hogan, William Vincent. 61. Halifax. Dalhousie University, 1933. January 1969.

MacLean, Russel Malcolm. 90. Willowdale, Ont. Royal College of Dental Surgeons of Ontario, 1909. 4-5-69. Survived by Bruce (son); Russell and Scott (grandsons); Norman (brother); and Mrs. Thomas Christie and Katharine MacLean (sisters).

Ott, Benjamin Myril. 74. Toronto. Royal College of Dental Surgeons of Ontario, 1919. 15-4-69. Survived by Varina May (wife); Mrs. C. M. Morris (daughter); Molly Baranouckas (stepdaughter); and six grandchildren.

Poliquin, Ronald. 66. Montréal. Université de Montréal, 1929. 21-11-68.

Robb, Henry George. 92. Etobicoke, Ont. Royal College of Dental Surgeons of Ontario, 1902. 6-4-69. Survived by Gertrude (wife); Dr. Murray (son); Mrs. A. L. Milloy (daughter); Mrs. M. Reynolds, Mrs. W. Tegart and Mrs. J. Faris (sisters); and five grandchildren.

Savoie, J. L. A. 44. Newcastle, NB. Université de Montréal, 1961. 19-4-69. Survécu par Marie (épouse); Gilles (fils); et Chantale (fille).

Sebben, John Fulton. 76. Stratford, Ont. Royal College of Dental Surgeons of Ontario, 1914. 17-4-69. Survived by Vera (wife); Richard (son); William (brother); Mrs. R. R. Glenn (sister); and four grandchildren.

Wilson, Francis St. Clair. 72. Montreal (formerly London, Ont.). Royal College of Dental Surgeons of Ontario, 1923. 20-3-69. Survived by David S. (son); John Wellington, Russell and Dr. Lorne C. (brothers); and Mrs. Steve Horvath (sister). Associate member CDA.

les actualités dentaires

L'Association

Résolution du Comité des services hospitaliers sur l'accréditation des hôpitaux et de l'internat

Lors de sa réunion du 27 mars, le Comité des services hospitaliers de l'ADC a examiné une résolution de l'Association dentaire de l'Ontario concernant les services dentaires hospitaliers et les programmes d'internat. La résolution demande que l'ADC "transfère la responsabilité d'accréditation du service dentaire hospitalier et des programmes d'internat aux organismes provinciaux qui accordent la licence".

Le comité a constaté que le Conseil exécutif de l'ADC, le Conseil de l'enseignement et le Comité des services auxiliaires avaient déjà exprimé leur désaccord envers la résolution de l'ADO. Après plus amples délibérations, le Comité des services hospitaliers a adopté la résolution suivante:

"Attendu que l'approbation au niveau national des services dentaires hospitaliers et des installations permet la reconnaissance inter-provinciale et internationale de ces services et de ces installations, et attendu que l'approbation par l'ADC des services et des installations dentaires hospitaliers est une condition nécessaire pour l'approbation nationale des programmes d'internat dentaire hospitalier, et attendu que la participation de notre profession au niveau national est essentielle pour assurer une liaison efficace avec l'Association canadienne des hôpitaux et le Conseil canadien pour l'accréditation hospitalière, et attendu que l'approbation de l'ADC n'empêche pas l'approbation au niveau provincial, par conséquent:

"Il est résolu que l'ADC continue d'approuver, sur la demande de chaque hôpital particulier et en consultation avec les comités provinciaux des services hospitaliers, les services et les installations dentaires hospitaliers dans tout le Canada".

Rapport au Comité des Communes: baisse de la mortalité par cancer buccal

Malgré une nette augmentation de la consommation du tabac, la mortalité par cancer buccal et pharyngien au Canada a diminué chez l'homme sans changer chez la femme. C'est ce qu'il ressort de la déposition sur l'influence du tabac sur la santé buccale faite le 24 avril par les représentants de l'ADC devant le Comité permanent sur la Santé de la Chambre des Communes.

Les Drs C. H. M. Williams et D. L. Anderson de la faculté de chirurgie dentaire de l'université de Toronto ont déclaré que les preuves les plus graves impliquant le tabac dans le cancer buccal concernent la mastication du tabac. Ils ont également signalé que les gros fumeurs souffrent plus souvent de gingivite et d'affection du parodonte que les personnes fumant peu ou pas du tout.

Dans un mémoire adressé au comité, l'Association fait état de recherches américaines dont les conclusions sont les suivantes:

Le cancer buccal est plus fréquent chez les fumeurs que chez les non-fumeurs;

On trouve deux fois plus de gros fumeurs chez les cancéreux buccaux que dans les groupes de contrôle;

La mortalité par cancer buccal est plus élevée chez les fumeurs.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association dentaire canadienne étaient les suivantes au 30 avril:

fonds d'obligations gouvernementales \$13.896;

fonds d'obligations corporatives \$15.058;

fonds d'actions ordinaires \$26.972.

L'avoir total (valeur marchande) du régime se montait à \$10,042,305.79 (au lieu de \$9,989,708.50 au mois de mars).

Au cours du mois précédent, les achats d'actions ordinaires ont été les suivantes: 4,000 actions de Barnes-Hind Pharmaceuticals.

Pour de plus amples renseignements, veuillez écrire à: The Administrator of CDA-sponsored Pension and Insurance Plans, Professional and Industrial Pensions Ltd., 2249 Yonge St., Toronto 295, Ont.

Le Canada

Nouveau directeur de la santé à Montréal

Le conseil municipal de la ville de Montréal a nommé M. André Cournoyer au poste de directeur du service municipal de santé, en remplacement du Dr Roland Lamquin, démissionnaire.

Traitements dentaires sous anesthésie générale à Chicoutimi

L'Hôtel-Dieu Saint-Vallier de Chicoutimi vient d'annoncer que le département d'anesthésiologie et de réanimation, le service de chirurgie buccale et les chirurgiens-dentistes de la région vont créer un service de traitements dentaires qui seront effectués bientôt sans anesthésie générale.

Cette innovation offrira un service externe que l'on réclamait déjà depuis longtemps.

Réduction du Journal de l'AMC

A partir du 1^{er} juillet, l'Association médicale canadienne ne publiera son Journal que deux fois par mois, au lieu d'une fois par semaine. Selon le directeur des services de rédaction, le docteur A. B. Kelly, cette réduction est due à l'augmentation des tarifs postaux qui feraient passer les frais de poste de la revue de \$18,500 à plus de \$140,000 par année.

Depuis le 1^{er} avril, les publications des associations professionnelles comme le *Journal de l'Association médicale canadienne* et le *Journal de l'Association dentaire canadienne* ont perdu leur statut de courrier de deuxième classe pour être reclassées comme courrier de troisième classe.

Le congrès national

Réunion de la section canadienne du Collège international à Montréal le 9 juillet

L'assemblée annuelle de la section canadienne du Collège international des chirurgiens-dentistes aura lieu à l'hôtel Reine Elizabeth à Montréal le 9 juillet. Le Collège offrira une réception dans le salon Richelieu à 18:30, suivie d'un dîner dans le salon Saint-Laurent à 19:30. Wilder Penfield, neuro-chirurgien de renommée mondiale, éducateur et humaniste montréalais, recevra les honneurs du collège cette année. L'assemblée sera présidée par J. A. Fortier, président de la section canadienne du Collège.

Chronique internationale

Réunion de la FDI et de l'ADA à New York en octobre

Plus de 25,000 dentistes du monde entier participeront à la réunion conjointe de l'Association dentaire américaine et de la Fédération dentaire internationale qui aura lieu en octobre à New York.

L'assemblée annuelle de l'ADA se tiendra du 12 au 16 octobre conjointement

avec l'assemblée de la FDI du 11 au 17 octobre.

Le programme scientifique débutera au Coliseum de New York le dimanche 12 octobre et se poursuivra jusqu'au jeudi 16 octobre. Quelque 1,000 conférenciers et cliniciens du monde entier y participeront. La traduction simultanée en anglais, français, allemand et espagnol sera organisée pour certaines parties du programme.

Plusieurs conférences internationales sont prévues, conformément au thème de la session combinée: "L'art dentaire international, carrefour des voies multiples qui mènent à une santé meilleure". Par ailleurs, une quarantaine d'organismes dentaires se rencontreront à New York avant et durant l'assemblée ADA-FDI.

L'ADA et la FDI ne demanderont pas de droit d'inscription, mais des frais seront perçus pour diverses activités sociales et autres.

Le bureau de logement de l'ADA retiendra des chambres d'hôtel sur réception d'une formule de réservation qu'on peut obtenir auprès du Bureau, 211 E. Chicago Ave., Chicago, Illinois 60611, USA.

Les hygiénistes dentaires seront officiers dans l'armée américaine

Le major général R. B. Shira, chef du corps dentaire de l'armée, annonce que l'armée américaine a autorisé la promotion d'hygiénistes dentaires au rang d'officier. Les hygiénistes dentaires bacheliers seront promues au grade de sous-lieutenant jusqu'au grade de capitaine, selon leur expérience. Les hygiénistes officiers feront partie du corps médical de l'armée américaine, sous le nom de chefs de service d'hygiène buccale de la communauté militaire.

Les organisations dentaires

Prochaine réunion de chirurgiens buccaux canadiens et américains à Montréal

On s'attend à ce que plus de 300 chirurgiens buccaux canadiens et américains participent à une conférence conjointe sur

la chirurgie buccale au Château Champlain à Montréal, du 7 au 9 août. La réunion est organisée par la Société canadienne des chirurgiens buccaux en collaboration avec un groupe de la Société américaine des chirurgiens buccaux.

Une conférence clinico-pathologique est prévue pour la séance de la matinée du 8 août à l'université de Montréal. Les participants seront informés de divers cas, avec l'appui de diapositives et de radiographies, et se prononceront par vote sur le diagnostic et le traitement. Les résultats seront analysés par un ordinateur, ce qui marquera la première apparition des ordinateurs au service des réunions dentaires au Canada. La séance du vendredi après-midi, qui aura lieu à l'université McGill, comprendra un symposium sur les infections dentaires.

Pour tout renseignement, s'adresser à W. B. Donohue, chambre 513, 1414 rue Drummond, Montréal 107, Qué. ou Guy Maranda, 465 rue St-Jean, Québec, Qué.

Le docteur Donohue devient président de l'Association des chirurgiens buccaux du Québec

Quatre cas intéressants ont été présentés à la soirée clinique annuelle de l'Association des chirurgiens buccaux du Québec qui a eu lieu à l'Hôpital général juif de Montréal le 26 mars dernier. Jean Bertrand, de Montréal, a parlé d'un kyste par rétention du sinus et des difficultés de diagnostic; Gary Freedman, de Montréal, a fait l'exposé d'une tumeur du maxillaire inférieur qui s'est révélée être un fibrome cimentifiant. Gérald Dufour, de Chicoutimi, a esquissé les principes de la chirurgie orthodontique et a présenté deux cas de prognathisme du maxillaire supérieur traités par chirurgie buccale; enfin, K. C. Bentley, de Montréal, a passé en revue les signes et symptômes d'un rare cas d'hyperparathyroïdisme.

W. B. Donohue, de Montréal, a été élu président de l'ACBQ pour l'année 1969-70. Il succède à Gérard de Montigny, aussi de Montréal. A. T. Charest, de Québec, devient vice-président. Les autres membres du bureau de direction sont les dentistes montréalais Jean Bernard et Mer-

vyn Gornitsky, respectivement secrétaire et trésorier, et E. P. Millar et Antoine Raymond, conseillers.

L'enseignement dentaire

Le FCED accorde \$10,000 aux facultés dentaires canadiennes

Dix facultés canadiennes de chirurgie dentaire ont chacune reçu un octroi sans conditions de \$1,000 selon L. P. Lépine, membre du conseil d'administration du Fonds canadien pour l'enseignement dentaire. Cette somme sera consacrée aux besoins éducatifs qui ne sont pas prévus dans les budgets des facultés. Depuis 1965 le FCED a distribué \$34,000 en octrois sans conditions aux facultés dentaires.

Le Fonds pour l'enseignement accorde \$5,000 à l'Association des facultés

M. J. Lipkind, membre du conseil d'administration du Fonds canadien pour l'enseignement dentaire a annoncé l'attribution de \$5,000 à l'Association des facultés dentaires du Canada. Le FCED a octroyé un total de \$14,000 à l'AFDC depuis la fondation de cette dernière en 1966.

Le Fonds pour l'enseignement contribue à un projet d'instruction des étudiants de Dalhousie

Le Fonds canadien pour l'enseignement dentaire a accordé à l'université Dalhousie une contribution de \$5,000 pour une étude pilote visant à évaluer l'expérience d'été d'étudiants en chirurgie dentaire. Le but du projet est de compléter l'instruction académique en dentisterie sociale et hygiène dentaire publique par une période d'expérience pratique dans une localité. Le projet permettra aux étudiants de se familiariser avec les besoins en hygiène dentaire de la localité et avec les méthodes en usage pour répondre à ces besoins.

Le site proposé pour le projet pilote sera une localité qui ne possède pas d'ins-

tallation pour les soins dentaires. Le projet, qui consiste de soins pour enfants, offrira des services de prévention et de traitement y compris: soulagement de la douleur et traitement des infections aiguës; radiographies "bitewing" et périapicales requises; prophylaxies et applications topiques de fluorure; instructions en hygiène buccale; obturations à l'amalgame et au silicate; et pulpotomies pour molaires temporaires (de préférence à l'extraction et au maintien d'espace si le cas le permet). Le projet comprendra aussi un programme d'éducation à l'hygiène dentaire à l'échelle de la localité.

Le personnel comprendra deux étudiants en chirurgie dentaire de 4^e année, deux étudiantes en hygiène dentaire de 2^e année, deux étudiants en chirurgie dentaire de 3^e année (comme assistants dentaires), une secrétaire-réceptionniste engagée sur place, sous la direction d'un professeur de la faculté de Dalhousie.

Le coût total du projet de 10 semaines est estimé à \$7,300.

L'octroi du FCED couvrira le salaire des étudiants et le logement du groupe. L'université paiera le salaire de ses employés et fournira l'équipement mobile, les instruments à main et les autres accessoires. La localité paiera le salaire de la secrétaire-réceptionniste. Le reste des recettes proviendra des honoraires perçus pour les services rendus. Les honoraires seront basés sur ceux de la clinique de la faculté de Dalhousie.

Programmes d'études

COURS AVANCÉS

■ L'université de la Californie du sud offre des cours avancés en endodontie, chirurgie buccale, orthodontie, périodontie et prothèse dentaire. Les candidats peuvent suivre des cours menant à un certificat ou une maîtrise en sciences fondamentales, simultanément avec une spécialisation. Les cours de chirurgie buccale, orthodontie et prothèse dentaire ont reçu l'approbation préliminaire provisoire du Conseil de l'enseignement dentaire de l'Association dentaire américaine. Les demandes d'inscription pour l'année 1970 seront acceptées jusqu'en novembre 1969.

S'adresser à H. M. Kopel, Director of Advanced Dental Education, University of Southern California School of Dentistry, University Park, Los Angeles, California 90007, USA.

■ L'université de la Californie du sud offre un cours de deux ans conduisant à un certificat en pédodontie. Ce programme a reçu l'approbation provisoire du Conseil de l'enseignement dentaire de l'ADA. L'université acceptera également deux fellows pour études post-doctorales durant l'année universitaire 1970-71. Ces études porteront sur les soins des enfants handicapés et malades chroniques. S'adresser à H. M. Kopel, Director of Advanced Dental Education, University of Southern California School of Dentistry, University Park, Los Angeles, California 90007, USA.

INTERNAT

■ L'hôpital universitaire de Boston offre un internat dentaire à rotation d'un an débutant le 1^{er} juillet. Pour tout renseignement, s'adresser à H. M. Goldman, Boston University School of Graduate Dentistry, 80 East Concord St., Boston, Massachusetts 02118, USA.

L'économie

Invitation au Québec de discuter de l'assurance-maladie

Le premier ministre P. E. Trudeau a relancé une invitation à M. Jean-Jacques Bertrand pour discuter avec les autorités fédérales de l'entrée en vigueur de l'assurance-maladie dans la province de Québec.

M. Trudeau a rappelé que la loi fédérale avait été adoptée après consultation avec les provinces et que le gouvernement québécois de l'époque avait alors indiqué son intention de participer à ce plan conjoint. Cependant le gouvernement québécois a par la suite changé et l'assurance-santé n'est pas encore en vigueur dans la province.

Commentant cet état de fait, M. Trudeau a dit: "Que la province change d'opinion, évidemment elle est libre de le

faire, mais la loi fédérale reste dans les livres et elle demeure efficace".

L'assistance médicale pour les assistés sociaux a coûté \$19,682,000

L'assistance médicale du gouvernement du Québec a coûté \$19,682,000 en 1968, une augmentation de \$2,186,356 par rapport à 1967.

Plus de 541,000 assistés sociaux sont admissibles aux prestations. En 1968, 2,061 omnipraticiens et 2,790 spécialistes ont présenté des relevés d'honoraires.

Dans son rapport à l'Assemblée nationale, la Commission de l'Assistance médicale a proposé un amendement de la loi de l'assistance médicale qui donnerait au ministre de la Santé le pouvoir de suspendre un médecin du régime pour une période déterminée. La Commission a remarqué que plusieurs médecins dispensent des soins d'une fréquence anormalement élevée aux assistés sociaux, et que ce droit de suspension "constituerait une mesure exceptionnelle susceptible d'améliorer le contrôle de la dispensation des soins".

Pas d'assistance-médicaments pour les assistés sociaux au Québec

Le Dr Roch Boivin, ministre d'Etat à la Santé, a laissé entendre que l'assistance-médicaments pour les assistés sociaux est loin d'être chose faite.

Le conseil des ministres doit encore décider des modalités de négociations avec les fabricants et les pharmaciens de détail, envisager tout le système de distribution et étudier quelle législation doit être établie pour ce régime.

Le ministre a également déclaré qu'"il faut bien admettre que le gouvernement, malgré les meilleures intentions possibles, (. . .) est limité par ses ressources financières". Il importe d'y aller d'autant plus délicatement, a-t-il souligné, que le régime d'assistance-médicaments qui sera accordé aux assistés sociaux influencera à coup sûr l'établissement de l'assurance-médicaments qui fera partie d'un éventuel régime général d'assurance-maladie.

L'Ile du Prince-Edouard accroît son aide aux étudiants dentaires

Le gouvernement de l'Ile du Prince-Edouard met sur pied un programme de prêts pouvant atteindre \$3,000 par année, sans intérêt jusqu'à un an après l'obtention du diplôme, pour les étudiants et étudiantes entreprenant des études dentaires. Le prêt était auparavant de \$1,500.

Selon l'honorable Bruce Stewart, ministre de la santé, la province connaît une pénurie de dentistes car leur nombre diminue alors que la population s'accroît. L'augmentation des prêts aux étudiants devrait stimuler le recrutement d'étudiants dentaires. M. Stewart a également signalé qu'il existe des prêts pouvant s'élever jusqu'à \$2,000 pour l'établissement d'un cabinet dentaire et \$10,000 pour l'acquisition de l'installation dentaire nécessaire. Les bénéficiaires de ces prêts doivent s'engager à exercer au moins trois ans dans la province.

Manitoba: prêts destinés à attirer les dentistes vers les zones rurales

Des prêts de \$5,000, amortissables par trois années de pratique rurale, sont offerts par le gouvernement manitobain dans l'espoir d'attirer des médecins et des dentistes vers les zones rurales. Ce projet a été annoncé le 2 avril.

Le docteur George Johnson, ministre provincial de la santé, a déclaré que les prêts ne sont pas des subventions mais des octrois accordés par l'intermédiaire d'une banque à charte, pour permettre aux médecins ou dentistes d'exercer dans certaines zones rurales approuvées par le gouvernement.

Le gouvernement remboursera \$1,000 à la banque la première année, \$1,500 la deuxième et \$2,500 la dernière année si le bénéficiaire continue à exercer dans la région convenue. Si celui-ci part avant le remboursement du prêt, la province cessera ses paiements et il se trouvera personnellement dans l'obligation de payer le solde à la banque.

Le docteur Johnson a déclaré que l'Association médicale du Manitoba et l'Association dentaire du Manitoba avaient approuvé le projet en principe.

L'Alberta participera au régime d'assurance-maladie

L'Alberta a annoncé sa participation au régime fédéral d'assurance-maladie à partir du 1^{er} juillet. La Saskatchewan et la Colombie britannique en font déjà partie. Le Manitoba, Terre-Neuve et la Nouvelle-Ecosse l'ont adopté le mois dernier. L'Alberta et le Manitoba financeront le régime avec une prime d'environ \$9.80 par mois et par famille. La Nouvelle-Ecosse financera sa contribution en relevant la taxe de vente de 5 à 7 p.100 et en augmentant les taxes perçues sur certains articles.

"Delta Dental Plan" nouveau nom du régime des corporations de services dentaires aux E.-U.

L'Association nationale des régimes de services dentaires des E.-U. a choisi un emblème national pour les régimes d'assurance payés par anticipation organisés par la profession sur une base non lucrative et qui seront réunis sous le nom "Delta Dental Plan". Les responsables espèrent que le nom et l'emblème du Delta Dental Plan atteindront, grâce à leurs réalisations, la notoriété publique acquise par la Croix Bleue et le Blue Shield dans le domaine des régimes d'assurance hospitaliers et médicaux.

La fluoration

La fluoration: l'Irlande va de l'avant

Selon Sean Flanagan, ministre irlandais de la santé, 1,180,000 Irlandais, y compris les habitants de Dublin, Cork, Limerick, Waterford, Galway, Dundalk et Drogheda, boivent actuellement de l'eau fluorée. D'autres installations desservant 100,000 personnes de plus seront fluorées dans les mois à venir. D'ici la fin de l'année, plus des deux tiers de la population qui peuvent être pourvus de services d'eau fluorée en bénéficieront.

Le gouvernement examine aussi la possibilité de pratiquer des applications topiques et des rinçages de bouche au fluor

dans les zones qui ne seront pas pourvues d'eau fluorée. Selon M. Flanagan, des projets pilotes sont en cours de réalisation dans six régions rurales.

La marche de la fluoration au Québec

Plusieurs municipalités de la province de Québec sont en train d'étudier la mise en application d'un service de fluoration de l'eau.

A Valleyfield, le Dr Armand Clairmont a suggéré par lettre au conseil municipal la fluoration de l'eau, à l'instar de la ville de Beauharnois. Il a trouvé une alliée en la personne de l'échevin Mme Marcelle B. Trépanier, épouse d'un chirurgien-dentiste.

L'Association des chirurgiens-dentistes de St-Hyacinthe a distribué un communiqué aux journaux de la région dans lequel elle déplore le retard de l'application de la fluoration. Le conseil municipal a déjà donné son accord de principe à ce projet mais a reçu une lettre du Ministère de la santé lui demandant d'attendre que les normes soient complétées avant de continuer les démarches en vue de l'achat et de l'installation d'un système de fluoration de l'eau. Les spécialistes du ministère préparent un aperçu des procédures administratives et termes techniques pour l'installation de la fluoration de l'eau dans une localité.

Les membres du conseil de la Cité de LaSalle ont pris connaissance d'une recommandation du Bureau médical du Montreal Children's Hospital endorsant la fluoration de l'eau.

Le fluor, élément essentiel du régime alimentaire

Dans ses nouvelles recommandations sur le régime alimentaire, le Conseil national de la recherche des E.-U. déclare que le fluor est un élément alimentaire essentiel et il conseille fortement la fluoration de l'eau de consommation. D'autres minéraux recommandés sont le calcium, le phosphore, l'iode et le fer.

Loi de fluoration pour l'ensemble du Dakota du Sud

Le 25 mars, le gouverneur M. Frank Farrar a signé la loi de fluoration de l'état du Dakota du Sud. Le Dakota du Sud est le sixième état possédant une loi de fluoration après le Connecticut, le Michigan, le Minnesota, le Delaware et l'Illinois.

La recherche

Un rapport recommande d'importants changements dans le Conseil des sciences

Un rapport publié le 24 avril conseille la création d'un nouveau type de subvention pour la recherche dans les problèmes publics et recommande d'importants changements dans l'organisation des organismes fédéraux accordant les fonds de recherches.

Le rapport, préparé conjointement par le Conseil des sciences du Canada et le Conseil du Canada, est connu sous le nom de rapport Macdonald, d'après J. B. Macdonald, dentiste et ancien recteur de l'université de la Colombie britannique, qui a dirigé l'étude.

Le rapport propose de nouveaux octrois qui stimuleraient des recherches multidisciplinaires de grande envergure ayant trait aux problèmes publics comme le transport, l'urbanisme, la pollution, la criminalité et la santé mentale.

Le rapport contient également les recommandations suivantes:

—refonte du Conseil de la recherche médicale en un Conseil de recherches des sciences de la santé, qui serait autorisé à venir à l'appui des recherches effectuées dans toutes les sciences ayant rapport à la santé; et

—refonte du Conseil national de recherches qui perdrait ses laboratoires actuels afin de se consacrer entièrement à soutenir la recherche universitaire à l'aide de subventions.

Le rapport recommande d'importants changements dans la structure du Conseil de la recherche médicale qui soutient la recherche en médecine, pharmacie et dentisterie. Il déclare: "Nous croyons que le mandat du Conseil de la recherche

médicale devrait être élargi et inclure toutes les sciences de la santé”.

“Nous reconnaissons que le Ministère de la Santé nationale et du Bien-être social puisse encore désirer soutenir la recherche dans des domaines tels que la santé publique, soit directement, soit par l’entremise des provinces. De notre point de vue cela est entièrement convenable. Ce qui importe est que les chercheurs de chacune des sciences de la santé reconnues par les universités aient un conseil, n’ayant d’autre mission que la recherche, auquel ils puissent s’adresser”.

Le Conseil des sciences du Canada est l’organisme consultatif du gouvernement fédéral en matière de politique scientifique. C’est un groupe indépendant composé de représentants des universités, du gouvernement et de l’industrie.

Jusqu’en novembre dernier, le Secrétariat des sciences était l’instrument de recherche du conseil et conseillait également le cabinet sur les questions quotidiennes de politique scientifique. Ces fonctions ont été jugées incompatibles; le secrétariat a donc été séparé du conseil et celui-ci a obtenu son propre personnel de recherche. Le secrétariat est maintenant au service du seul cabinet.

Le rapport contient les opinions de ses auteurs et non pas nécessairement celles du secrétariat ou du conseil. Le conseil prendra le rapport comme base de ses propres recommandations qu’il publiera plus tard.

Le fluor pourrait inverser le processus de carie

Il a été révélé lors de la dernière session de l’Association internationale pour la recherche dentaire que le fluor peut inverser le processus de carie et peut même guérir les caries initiales. La 47^e assemblée annuelle de l’AIRD a eu lieu du 20 au 23 mars à Houston au Texas. Le capitaine Seymour Hoffman de l’Institut naval de recherche dentaire à Great Lakes dans l’Illinois a fait état d’une étude utilisant un microscope électronique explorateur.

Des photographies prises à l’aide du microscope ont confirmé l’idée que l’application topique de fluor peut “arrêter et guérir” les débuts de carie. Des photos montrant la réparation de surfaces d’émail attaquées par l’acidité ont mis en lumière la propriété possible de l’application topique de fluor de guérir les caries naissantes. Dans un autre rapport sur le fluor, S. B. Heifetz de San Francisco signale que des enfants habitant des zones fluorées et traités par application topique de fluor ont subi 21 p.100 de moins de caries que des enfants n’ayant pas reçu de traitement topique.

On a signalé par ailleurs les constatations suivantes:

Trois enzymes — la pronase, l’hyaluronidase et la collagénase — ont retardé la résorption radiculaire des dents de singe transplantées.

L’emploi d’un appareil de jet d’eau à pulsation allié à un brossage des dents efficace peut réduire le risque d’inflammation des tissus périodontiques.

Des ciments renforcés de plastique ont été employés avec succès pour effectuer sur des soldats au front des restaurations provisoires qui durent plusieurs mois.

Un test du glucose sanguin d’une durée d’une minute qui permet la détection du diabète à son commencement et qui peut être effectué avec succès par les dentistes.

Une équipe de chercheurs préposée à l’élimination de la carie

Le directeur de l’Institut national de Recherche dentaire des E.-U., le docteur S. J. Kreshover, a annoncé la nomination d’une équipe spéciale pour diriger un programme concerté intensif de recherches et des programmes d’application visant à l’élimination de la carie dentaire d’ici 10 ans. Le programme de cette équipe, qui repose sur diverses disciplines scientifiques, comprend des essais cliniques et épidémiologiques, ainsi que des recherches en laboratoire. L’un des points essentiels en sera la microbiologie de la carie dentaire.

ameloblastic fibroma

a benign tumour treatable by curettage

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and Simon Weinberg, DDS, FRCD(C), Toronto, Ont.

The authors report three cases of ameloblastic fibroma, a non-invasive odontogenic tumour that may be confused with the commoner ameloblastoma. Unlike the latter, the ameloblastic fibroma can be treated by curettage. The paper emphasizes the clinical and microscopic differences between the two neoplasms.

Les auteurs font le compte rendu de trois cas de fibro-épithéliome adamantin, une tumeur d'origine dentaire non-envahissante qui peut être confondue avec l'améloblastome à croissance illimitée qui se rencontre plus fréquemment. A la différence de celui-ci, le fibro-épithéliome adamantin peut être traité par le curetage. Cet article souligne les différences cliniques et microscopiques entre les deux néoplasmes.

Ameloblastic fibromas are relatively uncommon odontogenic tumours which generally occur between the ages of five and 20 years. Although their microscopic features are characteristic, ameloblastic fibromas may be misdiagnosed as the commoner ameloblastoma, an error which may lead to more extensive surgical treatment than is necessary. Ameloblastic fibromas do not invade bone and are therefore curable by curettage whereas ameloblastomas, being invasive, tend to recur unless completely excised. This paper reports three cases of ameloblastic fibroma and stresses the important differences between it and ameloblastoma.

CASE 1 (CTR 1352)

A 30 year old Caucasian woman visited her dentist in October 1953 for treatment



FIGURE 1 Case 1. Radiograph of the lesion. The arrows indicate the bony cortex of the tumour. The first molar displays advanced root resorption.

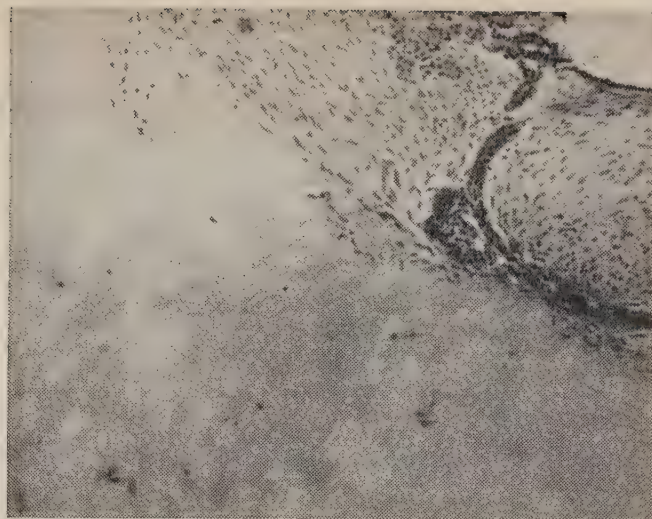


FIGURE 2 Case 1. The connective tissue at the top is very cellular while that in the lower part is hyalinized. Haematoxylin and eosin, x 170.

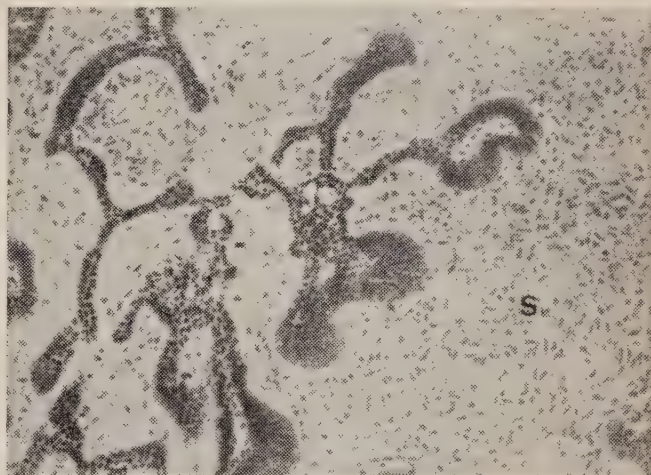


FIGURE 3 Case 1. Proliferation of bud-like projections of epithelium. The connective tissue stroma (S) is very cellular and resembles that of the dental papilla. Haematoxylin and eosin, x 170.

FIGURE 4 Case 1. Several epithelial islands of columnar cells surrounding a central area of stellate reticulum. Haematoxylin and eosin, x 170.

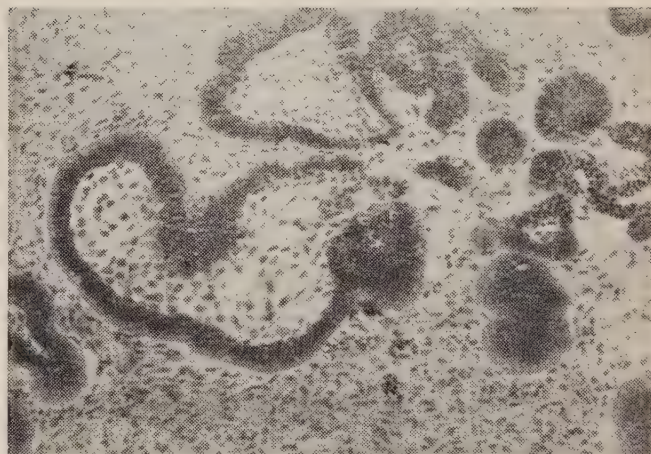
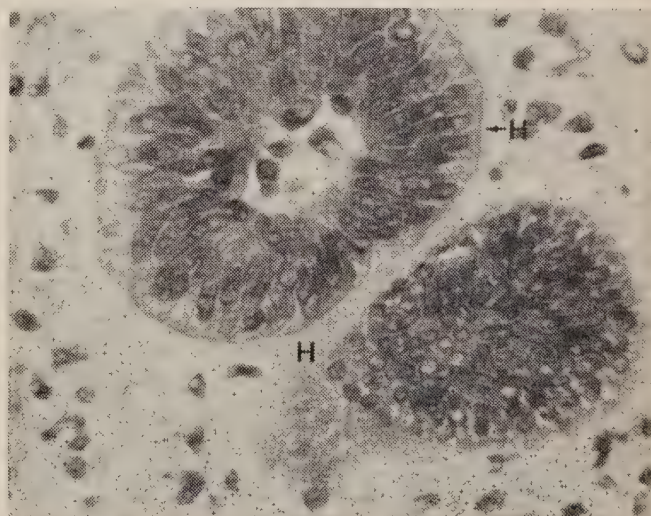


FIGURE 5 Case 1. A definite band of hyalinized material (H) surrounding epithelial islands. Haematoxylin and eosin, x 770.



of dental caries. Radiographic examination disclosed a radiolucent lesion in the body of the mandible involving the roots of the mandibular left bicuspid and first molar teeth (Figure 1). A hard swelling, about the size of an almond, was observed on the lingual aspect of the body of the left mandible. It extended from the second bicuspid area to the position formerly occupied by the second molar. The two bicuspids and the first molar had carious

lesions, but they were neither mobile nor sensitive to percussion and they responded to vitality tests. The patient had apparently been aware of a slight swelling of the lingual plate for eight to 10 years but, otherwise, the lesion was asymptomatic. Radiographs revealed an approximately oval radiolucent lesion with ill-defined margins in the affected region (Figure 1). Both roots of the first molar exhibited marked external resorption. The three involved teeth were extracted under local anaesthesia and a small amount of straw-coloured fluid was aspirated. The tumour was then removed by blunt dissection and curettage and the incision closed. There was no clinical or radiographic evidence of recurrence when the patient was re-examined in February 1956. She died in an automobile accident three months later.

Pathological Features. — The specimen was a greyish-brown firm piece of tissue measuring 3 x 1 x 0.5 cm. One surface was smooth; the opposite surface was rough. The cut surface was pale grey, firm and homogeneous.

Microscopic examination revealed a lesion surrounded by a thin connective tissue capsule. The lesion consisted of a very cellular and primitive connective tissue. Strands of odontogenic epithelium had proliferated throughout this connective tissue. The connective tissue stroma resembled the tissue of the dental papilla and exhibited no mitotic figures. Much of this tissue had undergone hyalinization (Figure 2).

The strands of epithelium had been transected resulting in the appearance of islands or nests of varying size. In many areas these strands seemed to be proliferating by forming bud-like projections (Figure 3). In parts of the lesion the epithelial islands consisted of columnar cells resembling ameloblasts. These cells were arranged peripherally like a palisade and enclosed central areas containing stellate reticulum (Figure 4). Some nuclei were at the distal poles of the columnar cells, others at the proximal poles. Most of the islands were bordered by a band of hyalinized material (Figure 5). Elsewhere, the islands were smaller and resembled the dental lamina and rests of

Malassez (Figure 6). Here the cells were low cuboidal and the islands possessed no central spaces. There was relatively little hyalinization around the periphery of these smaller structures.

CASE 2 (CTR 12504)

During a routine dental examination in October 1965, an asymptomatic radiolucent lesion was found in the right mandible of a seven year old Caucasian girl (Figure 7). The lesion, which was multilocular, measured 13 x 12 mm. on the radiograph and was associated with the crown of the unerupted, incompletely formed, permanent second molar. There was no evidence of swelling of the cortical plates. On November 2, the lesion, together with the unerupted second molar, was excised under general anaesthesia. The cavity was then curetted, the second molar repositioned, and the wound sutured. The histological diagnosis was ameloblastic fibroma.

The patient was re-examined on August 15, 1966. The second molar, which had moved mesially, was now partly erupted and mobile. There was no radiographic evidence of bone regeneration or further development of this tooth. It was therefore decided to remove the second molar. Pre-operative antibiotic therapy was instituted because the patient has contracted rheumatic fever in February 1966. The tooth was then removed under general anaesthesia. There has been no recurrence of the lesion.

Pathological Features (November 2, 1965). — The specimen consisted of approximately 10 pieces of light tan tissue, the largest measuring 1 cm. in its greatest diameter.

The microscopic appearance of this lesion differed somewhat from that of Case 1 in that the epithelial islands and strands were more numerous and generally smaller. Only a few islands exhibited stellate reticulum and no stromal hyalinization was present (Figure 8). In some areas the stroma consisted of relatively few cells and delicate fibrils rather than the very cellular stroma seen elsewhere in this tumour and in Case 1 (Figure 9).

FIGURE 6 Case 1. Several epithelial islands resembling rests of Malassez. These islands are not proliferating. Haematoxylin and eosin, x 450.

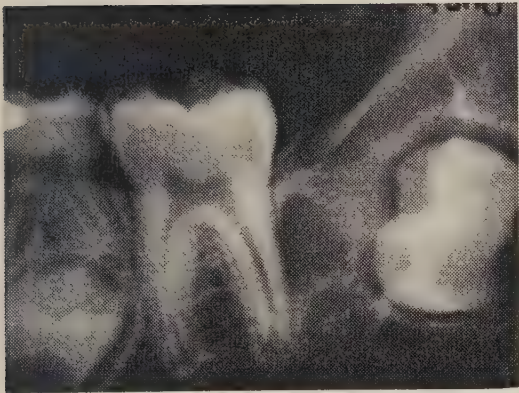
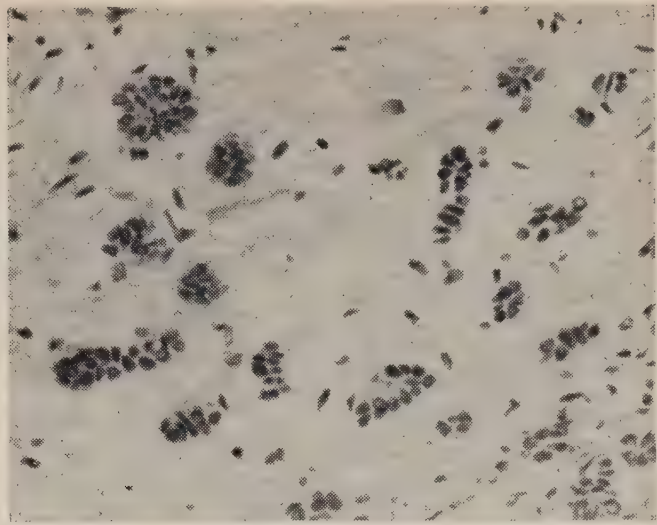


FIGURE 7 Case 2. Radiograph of a multilocular radiolucent lesion associated with an embedded permanent second molar.

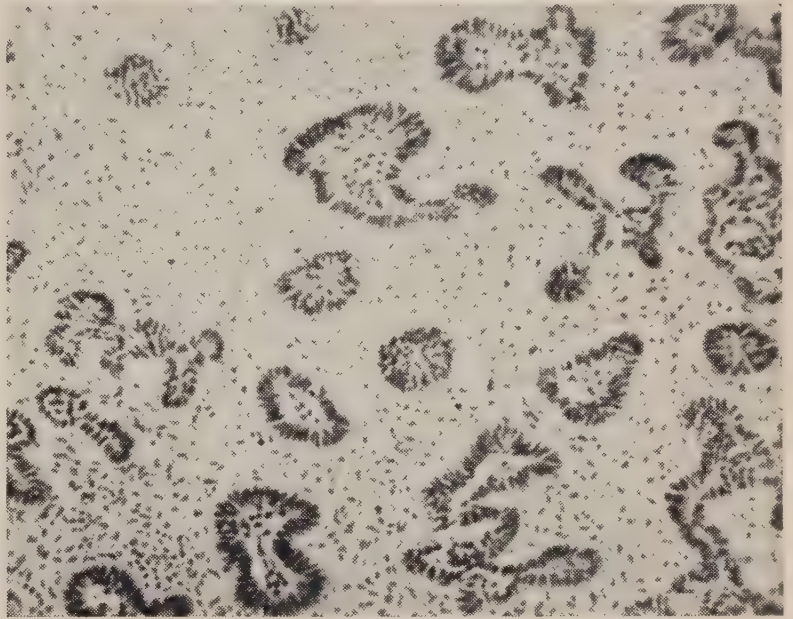


FIGURE 8 Case 2. Numerous islands of proliferating odontogenic epithelium within a cellular connective tissue stroma. The peripheral cells of the islands are columnar. Some of them surround areas of stellate reticulum. Haematoxylin and eosin, x 170.

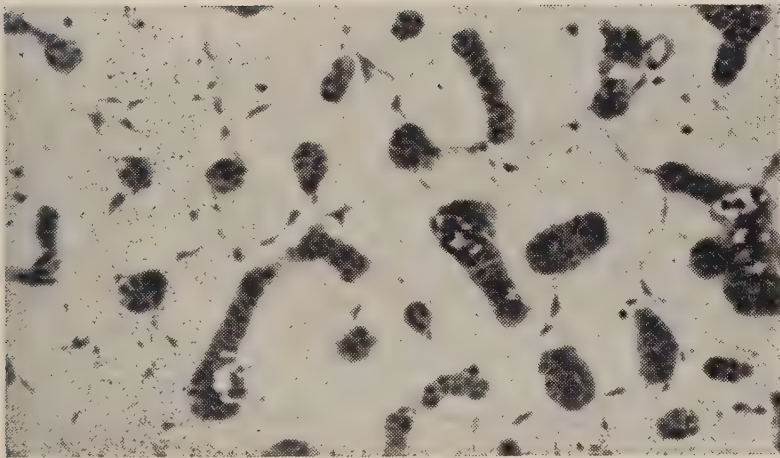


FIGURE 9 Case 2. Stroma with relatively few cells and delicate fibrils. Haematoxylin and eosin, x 170.

CASE 3 (CTR 3476)

The patient was a 2½ year old girl whose deciduous first and second molars had failed to erupt. A radiograph disclosed a radiolucent lesion in this region but the teeth in question were missing. An oral surgeon who curetted the lesion

observed that it did not resemble the contents of a typical dentigerous cyst. No follow-up information or radiographs are available for this case.

Pathological Features. — The specimen consisted of an irregular ovoid piece of

greyish-white soft tissue. It contained significantly fewer strands and clumps of epithelium than Case 2 which it otherwise resembled microscopically.

DISCUSSION

Ameloblastic fibromas resemble ameloblastomas in name and microscopic appearance but are a separate entity and not simply a variant of the ameloblastoma. The reason for this distinction is that ameloblastic fibromas have a better prognosis than ameloblastomas. They may expand bone but do not invade like ameloblastomas and consequently do not have the same tendency to recur after curettage.

Ameloblastic fibromas are mixed tumours characterized by the simultaneous proliferation of odontogenic epithelium and connective tissue stroma. None of the hard dental tissues is formed. In 1963 Gorlin, Meskin and Brodey¹ reviewed 36 cases in the literature including their own and found that most of them occurred between the ages of five and 20 years. In contrast, the ameloblastoma is commonest in the 20 to 49 age group. Ameloblastic fibromas occur in both sexes with approximately equal frequency.

The lesion usually expands slowly and painlessly. It is found mainly in the posterior region of either jaw, being more common in the mandible. Its radiographic appearance is not pathognomonic and is generally unilocular. It may be associated with an unerupted tooth, thus simulating the radiographic appearance of a dentigerous cyst. It may displace teeth. The lesion is well circumscribed, sometimes encapsulated, and does not recur after adequate local curettage.

The microscopic resemblance between ameloblastic fibromas and ameloblastomas may result in misdiagnosis by those who are unfamiliar with odontogenic tumours. The clinician should be aware that ameloblastomas are seldom found below the age of 20, whereas ameloblastic fibromas and adenoameloblastomas characteristically occur in younger individuals. The adenoameloblastoma may also

be confused microscopically with the ameloblastoma but it behaves similarly to the ameloblastic fibroma. Consequently, should he receive a pathologist's diagnosis of ameloblastoma in a child or adolescent, the practitioner is entitled to ask that the slides be received.

Microscopically, the differential diagnosis is based mainly on the cellular connective tissue stroma which resembles the dental papilla. This stroma, which is characteristic of the tumour, is not found in the ameloblastoma. In addition, the areas of odontogenic epithelium in the ameloblastic fibroma tend to be smaller than those in the ameloblastoma and, while they produce stellate reticulum, they do not do so to the extent found in the ameloblastoma.¹ Essentially, however, the epithelial component of the ameloblastic fibroma is difficult to distinguish definitively from that of the ameloblastoma. The distinctive feature lies therefore in the connective tissue stroma.

SUMMARY

Three cases of ameloblastic fibroma, a relatively uncommon odontogenic tumour, are reported. This tumour must not be confused with the commoner ameloblastoma because it responds well to curettage, whereas the ameloblastoma with its invasive qualities requires more extensive surgical procedures. The important clinical and microscopic differences between these two neoplasms are accordingly emphasized in this paper.

The three cases described in this paper are registered at the Canadian Tumour Registry (CTR) of the National Cancer Institute of Canada, Department of Pathology, University of Ottawa. The assistance of the Registrar, Dr. D. Magner, is greatly appreciated.

The authors thank Drs. D. Balshin, H. K. Fidler, D. H. MacDonald and J. B. McKay for their co-operation and Mr. R. G. Creary for his technical assistance.

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TEMPERATURE CHANGES ASSOCIATED WITH VARIOUS DENTAL CUTTING PROCEDURES

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The authors measured the in vitro temperature increment on the pulpal side of dentine produced by one minute of various cavity cutting and cooling procedures. Regular speed cutting without any coolant raised the temperature by 5.4°C. Air, water and air-water mist were effective coolants with ultra-speed cutting. Ultra-speed cutting without a coolant produced a more pronounced temperature increment than regular speed cutting without a coolant.

Les auteurs ont mesuré in vitro du côté pulpaire de la dentine l'augmentation de la température engendrée lorsque des cavités sont préparées pendant une minute en employant divers procédés de coupage et de refroidissement. Le coupage à la vitesse traditionnelle sans aucun dispositif de refroidissement a haussé la température de 5.4°C. L'air, l'eau et un mélange d'air et eau sont des refroidisseurs efficaces pour le coupage à super-grande vitesse. Le coupage à super-grande vitesse sans refroidisseur a provoqué une augmentation de la température plus marquée le coupage à la vitesse traditionnelle sans dispositif de refroidissement.

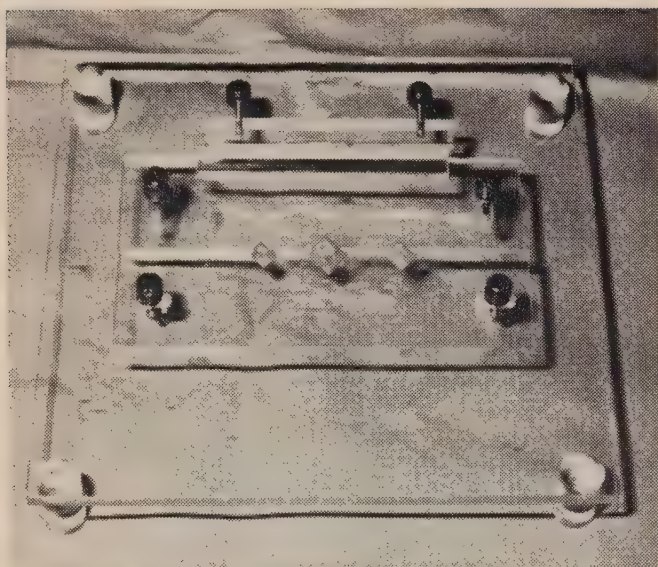


FIGURE 1 Plastic test platform.

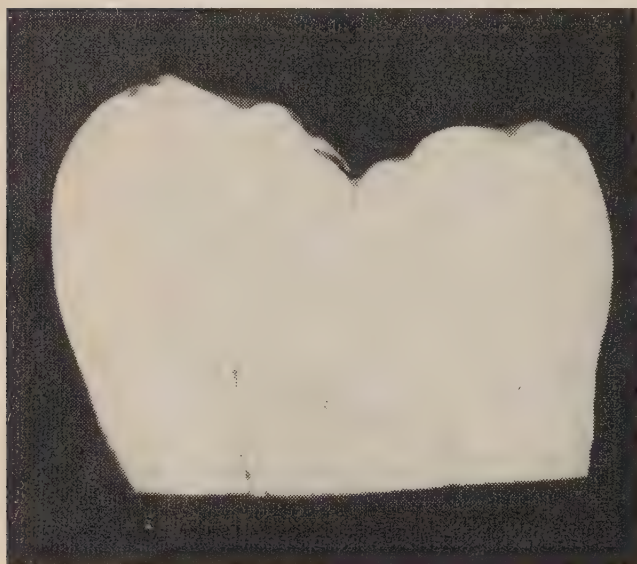


FIGURE 2 Test specimen sectioned.

Frictional heat was recognized as a pulpal irritant long before the advent of ultra-speed rotational cutting for cavity preparation. The heat generated by regular speed equipment, however, was generally considered as tolerable. Lacking any other choice, cutting at speeds of up to 6,000 rpm without coolants was regarded as acceptable. But the introduction of ultra-speed equipment accentuated the problem and prompted a search for techniques that generate less heat.

Intrapulpal temperatures induced by rotary cutting instruments depend on (1) the size, type and composition of the instrument, (2) the speed of rotation, (3) the pressure applied during cutting, and

(4) the type of coolant used.¹ Since dentine is an excellent thermal insulator,² the thickness of dentine remaining after instrumentation also affects the resultant intrapulpal temperatures.

Some authors^{1,3-9} contend that air coolant alone can prevent irreversible pulp damage. Others¹⁰⁻¹⁷ advocate the use of water or an air-water coolant. The effects of different coolants may be determined by measurements of tooth surface or intrapulpal temperature, by histological sections or by clinical and clinicopathological evaluations. Peyton and Henry,¹ Peyton¹⁸ and Jarby¹⁹ suggest that in vitro and in vivo temperature changes are similar. We therefore tested the in vitro temperature changes on the pulpal side of dentine produced by the following cutting and cooling procedures: (1) regular speed with no coolant, (2) ultra-speed with no coolant, (3) ultra-speed with air coolant, (4) ultra-speed with water coolant, and (5) ultra-speed with air-water mist coolant.

MATERIALS AND METHODS

We made a plastic platform with movable sections to hold a sectioned tooth rigidly during testing (Figure 1). Thirty well formed, caries-free, recently extracted human molar teeth were selected and stored in a 10 per cent neutral formalin solution. The teeth were sectioned mesio-distally through the pulp chamber, to a thickness of 5 mm. from the external enamel surface. The roots were removed at the cervical junction (Figure 2). The test specimens were then placed dentinal side down onto a round, flat surfaced temperature thermister probe (Probe No. 409, Yellow Springs Instrument Co., Yellow Springs, Ohio). The probe had a diameter of 10 mm. (Figure 3). Specimens were sealed around the periphery with carding wax (Figure 4). Each specimen and probe was then locked rigidly in the mounting platform with the external surface of the tooth facing upward. The assembly was sealed with carding wax to isolate the remainder of the specimen and probe from any direct effect of the coolant (Figure 5). Only the external enamel surface was left exposed to receive a

Class V cavity preparation. The thermister probe was then connected to a scanning tele-thermometer (Yellow Springs Tele-Thermometer No. 47) and laboratory recorder (Yellow Springs Recorder No. 80).

Regular speed equipment consisted of a 5,000 rpm laboratory engine (Emesco Bench Engine 90-N, Emesco Dental Co., New York) with a contra-angle hand-piece. Ultra-speed equipment was set up with a single contra-angle turbine hand-piece (Starflite 102 AL [Regular, 3 line handpiece], Star Dental Mfg. Co. Inc., Philadelphia) connected to two control boxes (Universal Control for Air Turbine, Model B, Ritter Co. Inc., Rochester, NY) which allowed no air, air only, water only, or air-water mist coolant. The air pressure was set at 25 psi to give a working speed of 200,000 rpm. The air coolant temperature was 23.5°C. The temperature used for the water coolant was 24°C. The rate of flow of the coolant was 35 ml./min. Room temperature was a constant 22.5°C. All tests started with the temperature of the specimen at 23°C.

Class V cavities, six for each of the five procedures, were prepared in the centre of the exposed portion of 30 teeth, and the temperature changes were recorded. The cavities were prepared with intermittent cutting by one operator in one

minute to a depth of 2.5 mm., length 4.5 mm., and width 2.5 mm. (Figure 6). A new SSW No. 557 tungsten carbide bur was used for the six preparations of each procedure. The force applied to the bur during the intermittent cutting procedure varied as it might in a clinical situation.

RESULTS

The resulting temperature changes are presented in Table 1. All temperatures recorded are those produced on the pulpal side of the tooth specimen at the end of one minute. An analysis of variance indicates a significant overall difference among the different procedures at $p < .001$.

DISCUSSION

The average temperature rise with regular speed and no coolant was 5.4°C. Considering the many years of clinical success with regular speed cutting equipment, a temperature change of this order probably does not cause irreversible pulpal damage.

In every case of ultra-speed cutting where a coolant was used, the tempera-

FIGURE 3 Test specimen placed with dentinal side on probe.

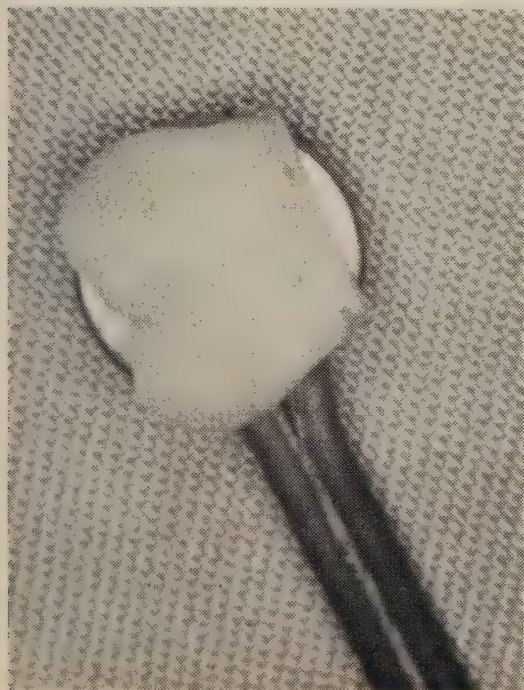


FIGURE 4 Test specimen sealed on probe.



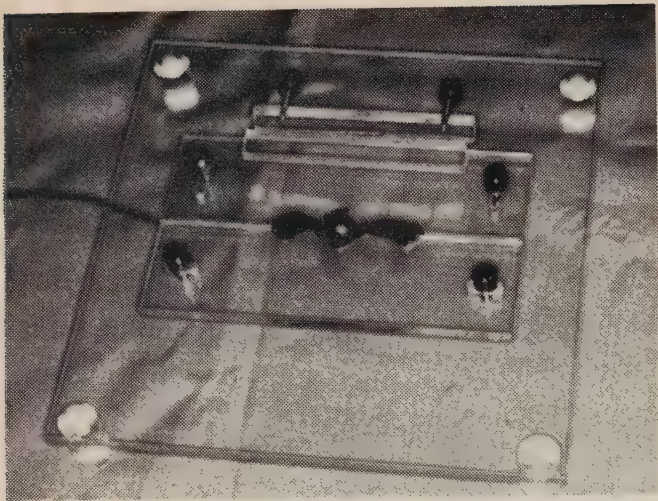


FIGURE 5 Test specimen and probe sealed on platform.

ture change was less than that of regular speed without a coolant. The least increment (+0.6°C) occurred when a solid stream of water was used. A decrease of -0.5°C was recorded when air-water mist was used. Using air only as coolant was also effective in keeping the temperature change (+2.7°C) to half that of regular speed without a coolant. The only test group that registered a temperature change higher than 5.4°C was ultra-speed with no coolant at all. This group had a mean temperature rise of 10.4°C. One of the test specimens in this group registered a temperature rise of 14°C.

Peyton and Henry¹ report that the maximum temperature develops within 10 seconds, even with intermittent cutting.

Hartnett and Smith⁴ investigated in vitro and in vivo temperature changes produced by using an air turbine with air coolant on extracted human molars and teeth of living and exsanguinated dogs. They reported temperature increases of 4.0°C during normal operating procedures and up to 9.5°C during abusive operating procedures.

Other investigators attest to the effectiveness of air coolant. Dachi and Stigers,⁹ using a clinico-pathological approach, found that teeth prepared with air coolant do not exhibit significant pulpal damage. Although there were milder pulpal reactions to water coolant than to air coolant used alone, they do not interpret the results as a contra-indication to judicious cavity preparation with ultra-

TABLE 1 Temperature changes on the pulpal side of dentine produced by various cutting and cooling procedures.

Method	Range of changes °C		Mean °C	Standard deviation
Regular speed no coolant	4.5	— 7.0	+5.4	1.1
Ultra-speed no coolant	8.0	— 14.0	+10.4	2.3
Ultra-speed air coolant	0.5	— 4.0	+2.7	1.3
Ultra-speed water coolant	0.0	— 1.0	+0.6	0.4
Ultra-speed air-water mist coolant	0.0	— (-) 0.5	-0.5	0.2

Base T° = 23°C
n = 6
Time = 1 minute
Regular speed = 5,000 rpm
Ultra-speed = 200,000 rpm

speed and air coolant. They suggest that (1) marginal leakage of restorations, (2) chemical irritation by restorative materials, (3) thermal conductivity of the materials, and (4) the trauma of insertion pro-



FIGURE 6 Test specimen after cavity preparation.

cedures are more important in producing pulpal irritation.

Langeland and Langeland,¹⁷ in a histological evaluation of the problem, found that wet cavity preparation with a properly directed and working spray caused little or no reaction. From this they concluded that a normal pulp has enough recuperative power to recover from effects of a dry preparation in a confined area. The severity of the reaction increases as more surface area of the dentine is exposed. After dry preparation the dessication leaves the pulp more susceptible to other restorative procedures. With wet cavity preparation the reaction to subsequent restorative procedures is less pronounced.

CONCLUSIONS

The following conclusions emerge from the published literature and the results of this study:

1. Air and air-water mist are effective coolants with ultra-speed cutting equipment used judiciously.

2. A combination of air coolant and air-water mist should be used in restorative procedures, especially in extensive reduction of tooth structure. Small, confined cavity preparations, completion of marginal and cavity detail may be performed with an air coolant.

3. To enhance vision and technique, an air coolant alone may be used.

SUMMARY

An in vitro study was performed to compare the temperature changes at the pulpal side of dentine during cutting procedures with various coolants. Class V cavities were cut in 30 human extracted molar teeth. Six cavities were used to test each of five different cutting procedures. The procedures were: (1) regular speed with no coolant, (2) ultra-speed with no coolant, (3) ultra-speed with air coolant, (4) ultra-speed with water coolant, and (5) ultra-speed with air-water mist coolant. Air, water and air-water mist were

effective coolants during ultra-speed cutting. Ultra-speed cutting without a coolant gave a more pronounced temperature increment than regular speed cutting without a coolant.

This investigation was supported by General Research Support Grant No. 301-05-00508-AO417 UKCD.

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pilot dental program for Penticton school children

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Grade 1 children who previously participated in a community educational and topical fluoride program at age 3-4 had better dental health than their classmates who were not exposed to such a program. However, the topical applications proved time-consuming and arduous in such young children. The authors now await the final result of a separate birthday card program for three year old children. They believe that such a program gives results that are superior to those described in this article.

Les enfants de première année qui ont participé auparavant à un programme d'éducation publique et qui ont reçu une application locale de fluorure à l'âge de 3-4 ans ont une meilleure hygiène bucco-dentaire que leurs camarades qui n'ont pas été exposés à un tel programme. Beaucoup de temps a été gaspillé toutefois durant les applications locales de fluorure qui se sont avérées très difficiles à cause du bas âge des enfants. Les auteurs attendent maintenant le résultat final d'un autre programme qui emploie les cartes d'anniversaire de naissance pour les enfants de trois ans. Ils croient penser qu'un tel programme donne des résultats supérieurs à ceux qui sont décrits dans cet article.

In May 1964 we initiated an experimental project in Penticton, BC.¹ We wanted to evaluate a community dental program for

three year olds. The program included examination, prophylaxis, topical application of an acidulated fluoride phosphate solution,² instruction in toothbrushing and diet, parental education, and referral to the family dentist for routine dental care. The approval of the Penticton Dental Society was obtained before the program started.

Parents of eligible children received a letter during the month of the child's third birthday. The letter invited their attendance and explained the free services to be provided. Information regarding the importance of deciduous teeth was also enclosed. Further interest was stimulated through newspaper articles and radio broadcasts. Several months later, personal telephone calls were made to parents who did not respond to the letter.

During the first 12 months there were 333 eligible children. Of this number, 264 or 79.3 per cent attended. The remainder includes children who moved away during the year and those whose parents were not interested in the program, who were already under dental care, or who did not understand sufficient English to comprehend the letter or the telephone call.

All children who attended received a topical fluoride application. The children were difficult to handle, and their treatment was less meticulous. The parent was present during the fluoride treatment; in this way parent education and treatment were rendered simultaneously. Each child was urged to visit the dentist, regardless of treatment need. This advice was reinforced by explanations of the necessity for radiographs and the dentist's profes-

sional diagnosis. Necessary professional care was particularly stressed for children with obvious carious lesions. Suggestions were also made for the prevention of further caries. Every parent received a series of dental health pamphlets and each child was given his own new toothbrush and a colouring book. The latter served as an educational tool, even for parents who were encouraged to read the accompanying story to the child.

The dental health of the children was assessed in terms of the following criteria (Table 1):

Caries-free (no evidence of previous caries experience),

Complete caries treatment (all caries treated by fillings, extractions or both),

Partial caries treatment (some, but not all, caries treated),

Never treated (caries present and no sign of any treatment),

Premature extractions (one or more deciduous teeth prematurely extracted).

During the next 12 months we telephoned each child for one more appointment. Each recall appointment was made in the month when the child first attended our clinic. Thirty-four of the original 264 children had moved away during the interval; another 44 did not return because of disinterest or because we could not reach them. Therefore, 186 children (74.3 per cent of the initial 264) received a second fluoride application at approximately four years of age. This visit showed the effects of our teaching efforts, including the recommendation that each child visit the family dentist (Table 2). We experienced no difficulty with fluoride applications in these children.

TABLE 1 Initial level of dental health in three year old Penticton preschool children.

Children					
Total participants	Caries-free	With complete caries treatment	With partial treatment	Never treated	With premature extractions
264	182	9	8	65	3
	68.9%	3.5%	3.4%	24.2%	1.1%

TABLE 2 Initial (three year old) and subsequent (four year old) level of dental health in Penticton preschool children who returned for follow-up topical fluoride applications.

Age	Children					
	Total	Caries-free	With complete caries treatment	With partial caries treatment	Never treated	With premature extractions
3 (first visit)	186	133 71.5 %	5 2.6 %	7 3.9 %	41 22.0 %	2 1.1 %
4 (second visit)	186	102 54.8 %	25 13.6 %	20 10.7 %	39 20.9 %	7 3.8 %

Table 2 reflects increases in the caries attack rate, treatment rate and premature extraction rate. We observed very little change in the children with no sign of any treatment.

Eighty-five parents reported that their children had visited the dentist during the intervening year. This represents 45.7 per cent of all children who returned to us.

However, 71 children were specifically referred for treatment at the age of three. Twenty-four of these were unavailable for recall, leaving 47 recall patients who had been referred. Of this number, 34 (72.3 per cent) had visited the dentist. Several other parents reported that treatment had not yet started. We could not verify these claims and therefore ignored them.

By 1967-68, 128 of the 186 children were enrolled in Penticton district schools and once again under the supervision of the Okanagan Dental Health Team.³ There

the children go through a play-learning experience and receive dental health cards to be signed by the family dentist. The children were re-classified at the end of the year. Those who had received the topical fluoride were compared with the non-program children (Table 3).

The topical fluoride group had many more children who were caries-free or had visited a dentist. This group also had fewer subjects with no treatment. Their premature extraction rate is a little lower.

DISCUSSION

One hygienist performed the preventive treatment and teaching at the pre-school level. Her services were extremely well received by the community; nearly 80 per cent of the eligible three year old children attended her clinic. That only 10 children were judged as difficult re-

TABLE 3 Comparison of dental health levels in Penticton school district Grade 1 children.

	Children					
	Total	Caries-free	With complete caries treatment	With partial caries treatment	Never treated	With premature extractions
All Grade 1 children	324	65 20.0 %	94 29.0 %	77 23.8 %	88 27.2 %	59 18.2 %
Children who participated in the preschool project	128 39.5 %	32 25.0 %	40 31.2 %	32 25.0 %	24 18.7 %	21 16.4 %
Non-program children	196 60.5 %	33 16.8 %	54 27.6 %	45 23.0 %	64 32.7 %	38 19.4 %

flects creditably on the hygienist. In due course these original 264 participants were reduced by 29 per cent — 13 per cent who moved away and a further 16 per cent who did not return for some other reason. Some of the latter may have been disappointed that we did not supply restorative treatment. The fact that less than half of our recall patients saw a dentist between their third and fourth birthdays tends to confirm this view. Nevertheless, 70 per cent of the children referred for specific treatment did receive this between the two visits to our program. Their return for a second visit to the dental hygienist may, of course, signify a pre-existing interest in dental health. Yet, our project lasted for two years only; had it continued, the acceptance and response to the program might have risen even further.

Another hygienist worked with the children in Grade 1. This proved effective in getting children to the dentist during the school year, the parents paying for any services rendered.

Children who participated in the preschool project had better dental health than non-program children. But the gradual attrition of the experimental group reflects some bias; parents of these children displayed an obvious interest in dental health, whereas their classmates had never had an opportunity to participate in a preschool program.

The higher percentage of children in the experimental group who were caries-free suggests that the topical fluoride applications exerted a beneficial influence. Yet, we cannot distinguish the effect of fluoride treatments from that of dental health education which may stimulate better home care and diet. Indeed, the existence of fewer untreated children in the experimental group suggests a greater appreciation of dental health by their parents.

In any event, the design of this study precludes a completely objective assessment of our preschool project. One thing is clear, however: topical applications are time-consuming and the meticulous technique is extremely tiring in such young children. This approach, moreover, seems less effective in getting children to a dentist than our three year old birthday card program.⁴

CONCLUSIONS

An educational and topical fluoride program for preschool children is described. The effects are measured in terms of the community dental health level rather than the customary reduced def rates. Topical applications can be time-consuming, expensive and arduous in these children. We found that a hygienist cannot devote more than half of her time to this work without impairing her morale, efficiency, high standards and job satisfaction. Moreover, her professional attitude toward topical applications deteriorates and she loses the sense of participating in a preventive program when the children do not receive needed restorations. Dental health education is more effective when parents are present while their preschool children receive a topical application. Preschool programs must be supplemented by further programs in the school; otherwise the benefits are lost.

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COMPARATIVE ACCURACY OF COMMONLY USED DENTAL DIE MATERIALS

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The authors measured dimensional changes in eight types of dies and found that unadulterated stone gives the most accurate dies.

Les auteurs ont mesuré le changement de dimension de huit types de modèles et ont constaté que le plâtre-pierre pur procure les modèles les plus précis.

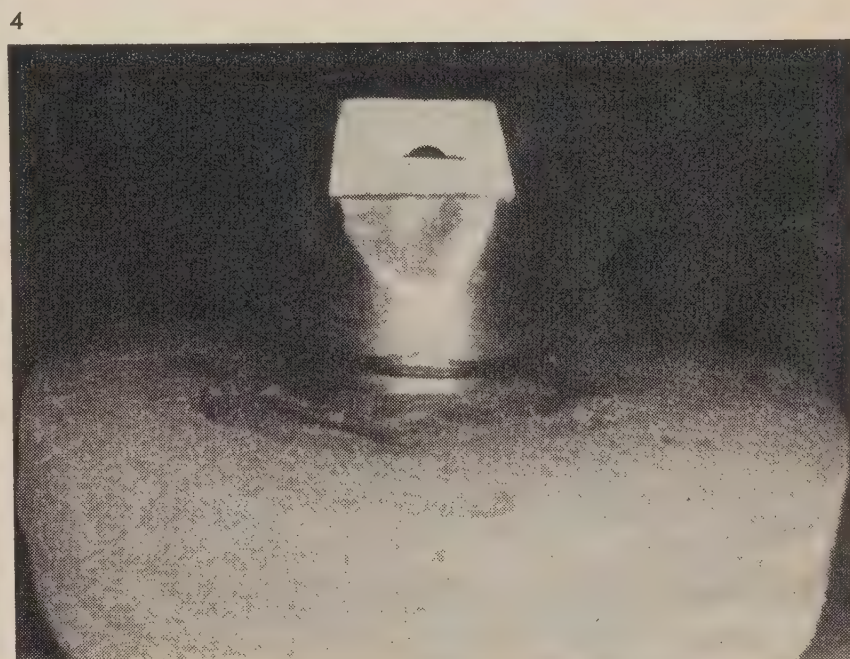
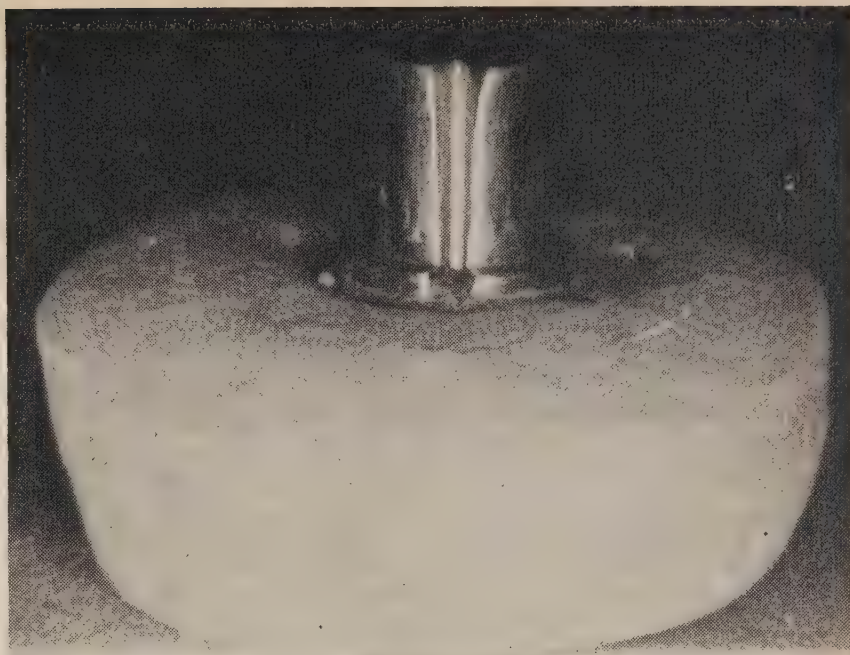
Most cast gold restorations are now made by an indirect technique with a die. The die introduces errors if it does not faithfully reproduce the actual tooth preparation. The wax pattern and the subsequent casting may then fit the die but not the tooth. All dies undergo some dimensional change. The most desirable die is one which exhibits the least alteration. This gives a better fitting casting when all other factors such as waxing, investing and casting are controlled.

There are published reports about the surface hardness of stone dies,^{1,2} dimensional changes during the setting of stone dies,²⁻⁴ the accuracy of the electroplated dies,^{2,5,6} phosphate-silicate cement dies,^{2,4} the effect of dies,^{2,5,6} and the effect of additives on stone dies.² This article compares the dimensional accuracy of dies most commonly used in dental practice.

MATERIALS AND METHOD

Die Materials. — The several materials tested are shown in Table 1. They include two experimental products, D and H, which have not been studied previously.

The same impression material, a heavy bodied silicone, was used throughout the study to eliminate impression variability. The materials were manipulated according to the manufacturers' specifications.



The tray (Figure 1) for carrying the impression material was custom made from rigid copper tubing with walls 1.2 mm. thick. It had an internal diameter of 13 mm. and was 24 mm. high. The interior was painted with the appropriate silicone adhesive before taking each impression.

Type A dies were hand mixed over a vibrator for one minute and poured with mild vibration. The water powder ratio was 3:17. Type B stone dies, with 1 ml. of stone hardener substituted for 1 ml. of water, were handled like type A dies. Type C, D, E, F and H dies were handled as prescribed by the manufacturer.

FIGURE 1 Copper tube tray for carrying impression material.

FIGURE 2 Master die.

FIGURE 3 Master invar casting.

FIGURE 4 Master invar casting seated on master die.

TABLE 1 Die materials tested.

Code type	Die material	Manufacturer
A	Vel-mix stone, no additive	Kerr Mfg. Co.
B	Vel-mix stone, with additive	Kerr Mfg. Co. Stalite Co., Inc.
C	Divestment	Whip-mix Corp.
D	Experimental P 44	Whip-mix Corp.
E	Pri-die Magic-mix	Jelenko, Inc.
F	Diamond-Die	Surgident, Ltd.
G	Copperplated die	
H	Experimental Ceramco die material	Ceramco, Inc.

Copperplated type G dies were produced as follows: the impression was metalized with 'Barnetts' Silverizing Base' and plated for 20 hours in 1 per cent aerosol acid copper sulphate electrolyte (10 per cent aqueous laboratory aerosol 13 fl. oz.; distilled water 115 fl. oz.; copper sulphate crystals 28 fl. oz.; concentrated sulphuric acid C.P. 8 fl. oz.). A current of 10 mA for each square centimetre to be treated (15 mA per impression) was employed for three hours. Thereafter, the rate of deposition was increased to 40 mA. The die roots were formed in stone after copperplating was completed.

Design and Procedure. — To control the expansion - contraction variable, invar metal, a 36 per cent nickel-iron product with an almost negligible coefficient of thermal expansion at room temperature, was used in the construction of the master die and master casting.

The master die was made in the form of a frustum with a groove on one side so that the casting would always be oriented in the same position (Figure 2). The master invar casting (Figure 3) was made so that it would not seat completely on the master die (Figure 4). This was accomplished by casting into a mould at a lower temperature than that required for proper expansion.

A window cut near the top of the master casting, on the side opposite the groove, enabled us to make precise measurements of dimensional changes in the dies which were studied. The usual position of measurement is at the base of a die. This area is unsuitable, however, because of its haziness under magnification. The window resolves this problem and helps to control a variable which could alter the results. The same pin point was used as a reference point in all measurements (Figure 5). An Ernst-Wetzler Micrometer Eyepiece, calibrated to 0.002 mm., was used to measure all discrepancies between the formed dies and the master casting.

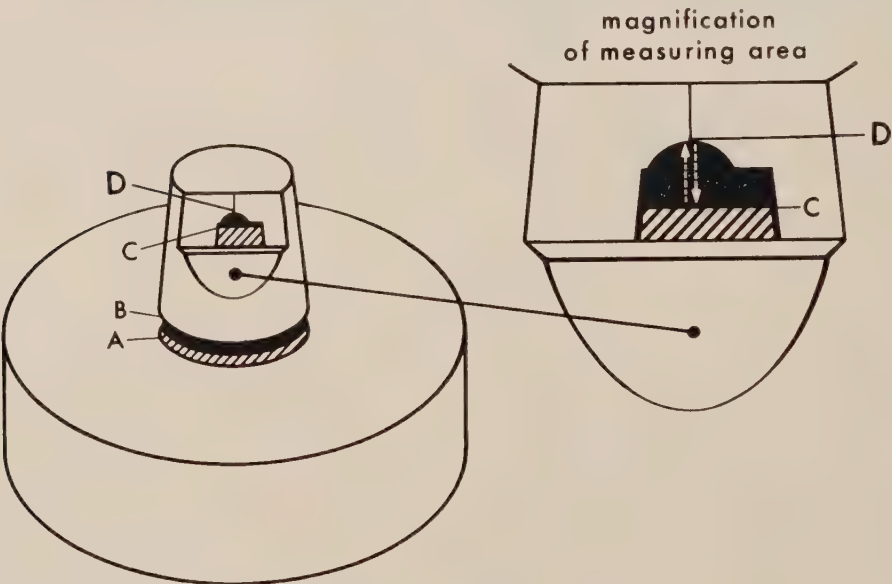


FIGURE 5 Components of die and casting. A, base of die. B, base of casting. C, top of die. D, pin reference point for all measurements.

TABLE 2 Dimensional changes in die materials tested.

Die	Expanded (times)	Contracted (times)	Maximum observable value (X) in mm.	Minimum observable value (X) in mm.	Mean $\pm$ standard deviation in mm.
			$\times 10^3$	$\times 10^3$	$m 10^2 \pm s 10^2$
A	8	2	0.400	—0.220	0.0150 ± 0.0207
B	10	0	0.224	0.142	0.1814 ± 0.0260
C	10	0	0.706	0.570	0.6348 ± 0.0347
D	0	10	—0.066	—0.166	$—0.1294 \pm 0.0320$
E	0	10	—0.096	—0.198	$—0.1434 \pm 0.0404$
F	8	2	0.342	—0.094	0.1010 ± 0.1306
G	10	0	0.246	0.170	0.2060 ± 0.0260
H	5	5	0.050	—0.100	$—0.0284 \pm 0.0715$

Reproduction dies were made from an impression taken of the master die. We oriented the master casting on the reproduction dies and measured the space between the top of the slot in the master casting and the top of the reproduction dies.

At least 10 dies were sampled from each basic die material. All discrepancies were measured under magnification, and size comparisons with the master die were noted.

RESULTS AND CONCLUSIONS

The results in Table 2 were obtained by statistical analysis.^{7,8} Dies D and E have a probability of contracting that is greater than 0.60 ($p < .05$) and die H has a probability of contracting that is greater than 0.20 ($p < .05$). Most samples of dies D, E and H displayed contraction and were therefore eliminated from the analysis.

The means and standard deviations show that a two sample t-test using dies A and F suffices in determining the best die (with the smallest positive mean expansion). The result of this test is that, with $p < .05$, die A is the best of the eight types of dies tested.

SUMMARY

The precise fit of a dental casting depends on several known and unknown factors. Different individuals may consequently obtain different results even though they use an apparently identical procedure. We investigated one of the known factors: the accuracy of the reproduced die. We tried to control as many variables as possible in the development of the dies and in the measuring technique in order to enhance the reliability and validity of the study. Our results showed that an unadulterated stone die is the most accurate of the dies analysed.

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EVALUATION OF A NEWSPAPER COLUMN AND RADIO BROADCASTS FOR DENTAL EDUCATION OF THE PUBLIC

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A weekly dental newspaper column elicited more response from parents of Grade 1 and 2 school children than weekly radio broadcasts on the same topic. The readers' response was proportional to the newspaper's circulation. Several parents thought that the radio program would have been more effective if the broadcasts were aired earlier in the day.

Une rubrique dentaire d'un journal hebdomadaire a donné lieu à une meilleure réponse des parents d'élèves de 1^{ère} et de 2^e année que des émissions de radio hebdomadaires sur le même sujet. La réponse des lecteurs était proportionnelle au tirage du journal. Plusieurs parents ont exprimé l'opinion que le programme radiophonique aurait été plus efficace si les émissions auraient été diffusées plus tôt dans la journée.

Before the dental health of a community can be improved, citizens must be acquainted with the means of preventing dental diseases and motivated to use them. This can only be accomplished through health education. But many dental education programs do not reach the people who need advice most urgently. Those who regularly visit a dentist are already motivated. Those who attend public health clinics and other health facilities have some awareness of the value of health. But what about the people who stay at home? How can they be reached?

Television, radio and newspapers reach into the home. Television is the most influential medium, but the lack of local broadcasting centres usually precludes its use for local education. Radio and newspapers are available locally, however. This article reports a specific test evalua-

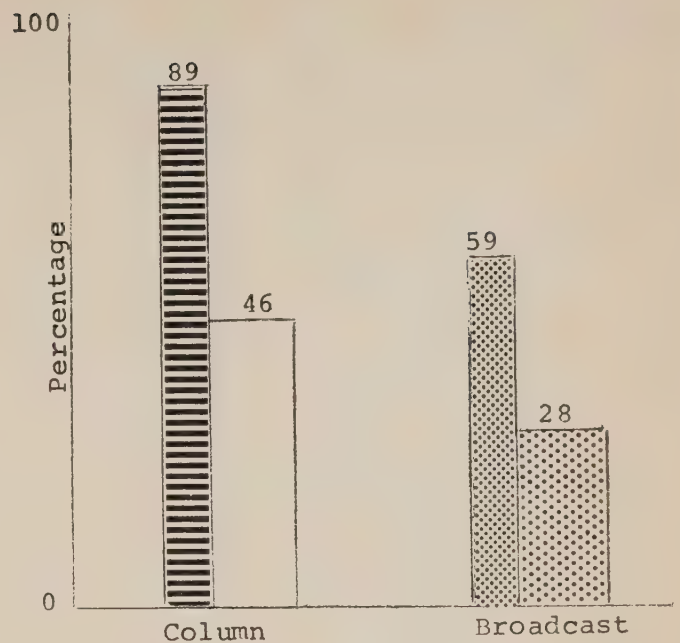


FIGURE 1 Per cent of respondents who read the dental health column or listened to the broadcast. A, received the newspaper weekly. B, received the newspaper occasionally or twice a month. C, listened to the radio daily. D, listened to the radio seldom or 2-3 times per week.

1. What causes tooth decay?
2. What foods are the most harmful to the teeth and why?
3. What is the best way to brush our teeth and how often should it be done?
4. Are electric toothbrushes better than the ordinary hand ones?
5. Are fluoridated tooth pastes as good as the ads say?
6. When do children start getting their second set of teeth?
7. When should children make their first visit to the dentist?
8. What is the best filling for front teeth?
9. Candies cause teeth to decay; what shall I do about the Hallowe'en candies?
10. Can front teeth knocked out by a blow be successfully put back into place?
11. Do some children just inherit soft teeth?
12. What are dental hygienists and where could my daughter take a dental hygiene course?
13. Is there a children's dental program operating in Nelson/Cranbrook?
14. Why do dentists fill decayed baby teeth when the teeth are going to fall out anyway?
15. Do fluoride paintings prevent cavities?
16. Are dental x-rays worth the added expense and can the radiation be harmful?
17. What causes gum diseases?
18. What are cankers and cold sores?
19. Up to what age should I give my child fluoride drops?

Questions featured in the dental health column and broadcast.

tion of these two media for dental health education.

METHOD

Cranbrook and Nelson, two British Columbia communities of approximately 10,000 population, were selected as test sites. A series of 19 questions and answers on dentistry were prepared. They were similar to questions that are posed after personal speaking engagements. Questions about the cost of dental services were deliberately excluded. The answers averaged about 200 words. The questions and answers were approved by local practitioners and were then published over a period of 5½ months in the Cranbrook weekly paper under a column titled "Dental Data." The column was not published on four occasions due to lack of space. During the entire period readers were invited to submit their own questions on dental health to the newspaper office. None were received. Near the end, form letters and questionnaires were sent home with 500 Grade 1 and 2 children. Parents of these young children have a personal stake in procuring dental treat-

1. How often do you receive the Courier?
 - a) Weekly _____
 - b) Twice a month _____
 - c) Occasionally _____

2. Have you noticed the following columns?
 - a) Woman's View Yes _____ No _____
 - b) Dental Data Yes _____ No _____
 - c) Sound Thoughts Yes _____ No _____

3. Have you ever read the following column?
 - a) Woman's View Yes _____ No _____
 - b) Dental Data Yes _____ No _____
 - c) Sound Thoughts Yes _____ No _____

4. In order, which do you read the most (1, 2, or 3)?
 - a) Woman's View _____
 - b) Dental Data _____
 - c) Sound Thoughts _____

5. How often have you read Dental Data?
 - a) Whenever I see it in the paper _____
 - b) About once a month _____
 - c) Less than once a month _____
 - d) Occasionally _____
 - e) Never _____

6. If your answer to question 5 is a, b, c, or d, did you learn anything from reading Dental Data?

Yes _____ No _____

7. If your answer to question 6 is yes, how much did you learn?
 - a) A great deal _____
 - b) Quite a bit _____
 - c) Some _____
 - d) Not much _____

8. Do you think a health column like Dental Data is worth-while?

Yes _____ No _____

9. How can the column be improved? (Check more than one if you like)
 - a) Longer _____
 - b) Shorter _____
 - c) Simple words _____
 - d) Different title _____
 - e) Different questions _____
 - f) Other comments _____

TABLE 1 Audience response to newspaper columns and radio programs.

Reading or listening to	Number	Per cent
Column n=233		
Woman's World	174	75
Dental Data	161	69
Sound Thoughts	133	57
Radio program n=137		
Woman's View	95	67
Dental Health	68	49
Ask the Doctor	85	62

ment for their children and are therefore more apt to respond to preventive education. The parents were asked to complete the questionnaires and return them to the schools within four days. The questionnaire sought information on "Dental Data" and two other newspaper columns, "Woman's View" and "Sound Thoughts."

Three months after the initiation of the "Dental Data" column, the series of questions and answers were recorded for the Nelson radio station and titled "Answers on Dental Health." With a few exceptions, the material was identical. The program was broadcast weekly at 1.10 p.m., each broadcast lasting 2½-3 minutes. At the conclusion of the series an equal number of similar questionnaires were circulated in the same manner. The comparative broadcasts were "Ask the Doctor" and "Woman's World."

RESULTS

The returned questionnaires numbered 370; 233 on the newspaper column and

TABLE 3 Frequency of reading reported by the 161 respondents in Table 1 who read the dental health column.

Frequency	Number	Per cent
Whenever seen in the newspaper	74	46
Once a month	11	7
Less than once a month	2	1
Occasionally	74	46

TABLE 2 Frequency of listening reported by the 68 respondents in Table 1 who heard the dental health broadcasts.

Frequency	Number	Per cent
Every week	9	13
Once a month	12	18
Less than once a month	2	3
Occasionally	45	66

137 on the radio program. Fifty-five per cent of respondents to the newspaper column said they received the newspaper weekly; 23 per cent procured it twice a month and 22 per cent obtained it occasionally. Sixty-six per cent listened to the radio daily, 25 per cent two to three times a week, and 9 per cent seldom. Despite the larger radio audience, only 49 per cent listened to the dental broadcast, whereas 69 per cent read the column. When the newspaper was read weekly, 89 per cent read the column. When the radio was listened to daily, 59 per cent heard the dental health program (Figure 1). These figures suggest that the response to a weekly dental health column is directly related to the newspaper's circulation, with close to 90 per cent of the subscribers reading the column. Radio broadcasts are not restricted by circulation; but turning on the radio daily does not automatically increase the listening audience.

In both media the woman's column or program received the best response. It was heard by 67 per cent and read by 75 per cent. The dental health column was a close second but the dental broadcast placed third (Table 1).

TABLE 4 Respondents' suggestions for improving the dental health column and broadcasts.

Recommendation	Column		Broadcast	
	Number	Per cent	Number	Per cent
Longer	28	25	22	44
Shorter	4	4	—	—
Simpler words	29	26	12	24
Different title	8	7	—	—
Different questions	42	38	16	32

Of those who heard the broadcast, 66 per cent listened occasionally, 18 per cent once a month, 13 per cent every week, and 3 per cent less than once a month (Table 2). Of those who read the column, 46 per cent saw it occasionally, 46 per cent whenever they saw it in the newspaper, 7 per cent once a month, and 1 per cent less than once a month (Table 3).

Response to the newspaper column was superior to the radio broadcasts. However, several respondents suggested that the radio program should have been broadcast earlier in the day and advertised previously.

Eighty-five per cent of the respondents to both media claimed they had learned something new. The amount learned was: not much 6 per cent, some 65 per cent, quite a bit 25 per cent, and a great deal 4 per cent.

Ninety-five per cent of the respondents judged dental health columns or broadcasts as "worth-while." There were 111 suggestions for improving the newspaper column and 50 suggestions for improving the radio broadcast. Many individuals offered two or more suggestions (Table 4). The most frequent proposals were for different questions and a longer program or column.

SUMMARY

This article reports on the effectiveness of a newspaper column and a radio broadcast as a means of community education. Nineteen questions and answers

on dentistry were published in a weekly newspaper in one community over a period of five months, and broadcast weekly by a radio station located in another locality of similar size. Subsequent questionnaires, completed by parents of Grade 1 and 2 children, indicated a greater response to the newspaper column. The response was proportional to the paper's circulation. The radio program might have gained a better response had it been previously advertised and broadcast in the morning. Ninety-five per cent of the respondents judged the newspaper column or broadcasts worth-while. Eighty-five per cent of the listeners and readers claimed that they gained new information.

CONCLUSIONS

Broadcast and print media are useful for dental health education. Broadcasts and columns should be longer than 200 words and should be couched in non-technical language. The subject matter should be based on interesting, meaningful topics. The educator should derive his topics from the general public rather than from personal opinions or those of other educators. The effectiveness of any educational program should be evaluated.

Dr. Richardson is an assistant professor in the Faculty of Dentistry, University of British Columbia.

*Faculty of Dentistry,
University of British Columbia*

Fifty years ago, the Dominion Government established its first Department of Health. To its successor, the Department of National Health and Welfare, the *Journal* offers congratulations on the golden jubilee of this historic event.

abstracts

Monobloc

A. L. Posen. *Angle Orthodont.* 38:121, 1968.

The monobloc, like the headgear or bite-plate, is a useful adjunct in orthodontic treatment, particularly of Class II, Division 1 malocclusions. This appliance works better in some malocclusions than in others. For example, Class II malocclusions with diastemas in the arches will respond better to multiband and cervical traction treatment than to the monobloc. En masse movement of teeth also responds better to a multiband technique.

When the child is growing the monobloc may be used in preference to other methods whenever the following conditions are present:

1. Aligned maxillary and mandibular arches with no diastemas;
2. Normal maxillary lip posture;
3. In retention, when a severe Class II, Division 1 malocclusion has been treated with other appliances [the monobloc can be trimmed to allow eruption of posterior teeth or it can be adjusted so that posterior teeth do not erupt as in open bite malocclusions]; and
4. In conjunction with mandibular bands during the levelling stages to correct intermaxillary Class II relationships.

The Effect of Ataractics on Salivary Calculus Formation

Gilbert Stanton and E. C. Kettner. *Periodontics* 6:178, 1968.

The authors found a statistically significant relationship between lack of calculus formation and the use of tranquilizers. The influence of ataractics on salivary calculus formation is not a simple effect such as reduction of salivary flow rate alone. Rather, the hypothalamic, adrenocortical and thyroid effects must also be clearly delineated. Adrenocortical and thyroid function may emerge as possible mechanisms in calculus inhibition. It may be postulated that a favourable endocrine balance exists among adult non-calculus formers which may play a role in salivary composition. Ataractics may affect this pathway.

New Duties for Dental Auxiliaries — the Alabama Experience

P. E. Hammons and H. C. Jamison. *Amer. J. Public Health* 58:882, 1968.

Can dental auxiliaries with good training perform certain kinds of care as well as dentists? The authors report that a small group of high school graduates after a two year training program performed at least as well as a group of advanced undergraduate dental students in selected operations.

Five female high school graduates completed a two year training program designed to prepare them to perform certain clinical procedures traditionally completed by dentists. The quality of their performance in inserting amalgam restorations, inserting silicate restorations, finishing amalgam restorations, finishing silicate restorations, inserting temporary restorations, placing matrix band, and placing rubber dams was compared with the quality of performance of advanced undergraduate dental students for the same procedures. The authors concluded that carefully selected female high school graduates can be trained to perform these operations qualitatively at least on a level equal to advanced undergraduate dental students.

Periodontal Reattachment after Tooth Replantation

A. W. Anderson, Y. Sharav and M. Massler. *Periodontics* 6:161, 1968.

Experimental replantation of teeth in animals offers a relatively well controlled and reproducible model upon which to examine various factors that promote or interfere with reattachment of traumatized periodontic tissues. A study, in dogs, showed the remarkable ability of the periodontic tissues to reattach under a variety of experimental conditions. Reattachment of the periodontic ligament occurred in teeth with incomplete apices when the teeth were replanted almost immediately after extraction. Storage in a dry or wet environment was of relatively minor importance in respect to the rate and type of reattachment. Radiographic examination was a more reliable evaluation of the degree of histopathology than clinical evaluation.

The Effect of Thorough Mouth Cleansing on Oral Health: Case Report

S. S. Arnim. *Periodontics* 6:41, 1968.

This is a case report of a clinical test of the role of personal oral hygiene, toothbrush, floss, dental irrigator and dentifrices in the control of dental disease. A 'hopeless case' was chosen which had failed to respond to

treatment for dental caries and periodontic disease over a period of many years despite regular visits to the dentist and 'proper' toothbrushing. Disclosing wafers, sedimentation tests, scraping and phase microscope analyses were used to detect, demonstrate and measure the microbial elements associated with the dental lesions. Biopsies were taken of marginal gingiva in order to determine the histopathological picture from the beginning of the experiment until the end. All the laboratory tests were used as aids in the development of the treatment plan and as guides for measuring the effectiveness of the program as it progressed.

The results obtained were dramatic. They were documented clinically and with the tests. Both caries and periodontic problems have been controlled in this patient's mouth for six years.

The author recommends that all dentists use these simple, scientific procedures in daily practice to help their patients develop an effective program for prevention of dental disease and preservation of oral health.

Patterns of Gingivitis

J. D. Suomi and J. P. Barbano. J. Periodont. 39:71, 1968.

The authors examined 400 institutionalized 15-34 year old males for gingivitis. The condition of each papilla and margin was assessed from the facial and lingual aspect, and a score of 0, 1 or 2 was assigned to each unit depending on whether or not the unit was inflamed and, if inflamed, on the degree of inflammation.

Gingivitis scores tended to increase with increasing age.

Right and left sides of the mouth displayed similar patterns of gingival involvement, although slightly greater means scores were found for the lingual surfaces of both upper and lower molar and bicuspid segments on the right side of the mouth than on the left side.

Differences in the severity of gingivitis existed between facial and lingual surfaces of some segments. Lingual surfaces of the upper jaw were generally less severely inflamed than facial surfaces. In the lower jaw, lingual surfaces were more inflamed than facial surfaces, with the exception of the anterior segments in the youngest age group.

Severity patterns of gingivitis for both the facial and lingual surfaces were similar for each age group. For facial surfaces, upper molar segments showed the most gingival inflammation, and lower bicuspid segments the least. Most severely inflamed lingual surfaces were those of lower molar segments, whereas lingual surfaces of upper anterior segments showed the least inflammation.

résumés

La langue lisse du vieillard

P. Rodesch. Acta Stomat. Belg. 65:155, 1968.

Après un rappel d'anatomie pathologique macroscopique et microscopique, l'auteur note le peu de statistiques disponibles sur la fréquence de la langue lisse. Le diagnostic différentiel est fait des états pathologiques s'accompagnant de décapillation linguale et une étude est faite afin de découvrir le mécanisme qui intervient chez le vieillard pour produire l'atrophie de l'épithélium lingual dans:

1. les glossites lisses décrites dans l'asalie
2. la glossite du "dentier"
3. la glossite de Hunter
4. les glossites des carences et des troubles de la nutrition.

L'auteur en arrive à la conclusion que l'atrophie de l'épithélium lingual traduit un désordre biochimique, c'est-à-dire un trouble de la respiration cellulaire. Le fer et les vitamines semblent jouer un grand rôle dans la constitution des enzymes respiratoires et l'atrophie linguale du vieillard peut être provoquée par la malnutrition habituelle à cet âge ou par l'involution sénile du métabolisme. Une étude des ferments respiratoires devrait être entreprise au niveau de l'épithélium lingual au cours des divers âges de la vie humaine.

Les contacts prématurés

W. Green. Rev. Franc. Odontostomat. 15:909, 1968.

Cet article étudie les différents rapports d'occlusion des dents, ainsi que les contacts prématurés les plus communément rencontrés. Après avoir décrit l'occlusion centrée dans un cas idéal, l'auteur énumère les buts de l'élimination des contacts prématurés:

1. la prévention des dysfonctions de l'appareil maxillo-mandibulaire
2. le traitement des dysfonctions de l'articulation temporo-mandibulaire
3. le traitement des paradontopathies
4. le traitement de la bruxomanie
5. l'obtention d'une fonction masticatrice plus efficace et plus agréable et d'un aspect plus esthétique de la denture.

L'auteur décrit ensuite une technique de meulage qui permet l'élimination des contacts prématurés d'une façon systématique et progressive.

analyse

Anatomie cervico-faciale. Volume 1: Ostéologie cranio-faciale et anatomie descriptive de la face et du cou

C. Crépy. Paris, Masson & Cie et Julien Prélat, 1967. 436 p. Illustré. Cartonné toile demi-souple 90 F.

Le premier volume de l'*Anatomie cervico-faciale* de Crépy traite de l'ostéologie cranio-faciale et de l'anatomie descriptive de la face et du cou. C'est un manuel dont le manque se faisait sentir depuis longtemps. Ce livre est un instrument d'une valeur inestimable pour l'enseignement de l'anatomie cervico-faciale aux étudiants en chirurgie dentaire. Dû à la clarté du texte et des schémas, il peut certainement aussi servir comme aide-mémoire aux praticiens. Le texte est bien clair et net, sans détails superflus, juste ce qu'il faut pour un étudiant qui se prépare pour son doctorat en chirurgie dentaire. C'est surtout le numérotage des figures et des schémas et leur inclusion dans le texte par différentes formes de caractères et de chiffres qui facilite la recherche d'une structure anatomique. Les couleurs des artères, des veines, des ligaments et des muscles sont bien nettes et distinctes pour pouvoir les identifier dans chaque schéma avec la même couleur et le même numéro correspondant au texte.

Le livre est divisé en deux parties: la première partie, qui traite du squelette de la tête et du cou, groupe séparément les os du crâne, les os de la face et ceux du cou. Dans chaque section, la description systématique est suivie d'un chapitre synthétique sur la topographie du crâne. L'accent est surtout mis sur les régions dont le futur chirurgien-dentiste est particulièrement intéressé; comme la fosse ptérygo-maxillaire, les fosses nasales, les cavités orbitaires avec une attention spéciale à la topographie de la mâchoire supérieure et de la mandibule. Chaque chapitre se termine par une liste récapitulative de légendes qui aide certainement l'étudiant à retrouver les structures qu'il cherche.

Un chapitre sur l'articulation temporo-mandibulaire fait le trait d'union entre la première partie qui traite du squelette de la tête et la deuxième partie qui est l'anatomie

descriptive de la face et du cou. Ce chapitre aussi est traité avec autant de clarté et de précision que les précédents.

La deuxième partie est divisée en différentes sections comme les muscles, les artères, les veines, les lymphatiques, les nerfs de la face et du cou et les glandes salivaires.

Dans l'avant-propos, M. le docteur Crépy dit que les éponymes sont supprimés dans le texte tandis que je constatais que la plupart du temps, la nomenclature contient encore des éponymes qu'on devrait probablement remplacer par la nomenclature de P.N.A. (Parisiensa Nomina Anatomica). Un autre inconvénient pour les étudiants canadiens est que le livre coûte assez cher selon les normes américaines, soit \$23. Malgré ceci, comme c'est un livre qui vient combler un vide qui existait depuis longtemps, il a été accepté comme manuel obligatoire de l'anatomie dans notre faculté à l'Université de Montréal.

Je félicite M. le Professeur agrégé C. Crépy pour avoir conçu et réalisé ce précis d'anatomie qui nous manquait depuis si longtemps.

A. Demirjian

A Handbook of Dental Malpractice (Un manuel de négligences dentaires)

L. B. Wood. Springfield, Illinois, C. C. Thomas, 1967. (Distribué au Canada par The Ryerson Press, Toronto) 100 p. \$6.50

Comme l'indique le titre, ce livre est un guide, écrit en courtes sections; la lecture en est facile, même pour un dentiste débordé.

On y traite des occasions et des circonstances où un dentiste peut être poursuivi pour négligence, fraude, délit et agression etc. . . . Les responsabilités publiques et professionnelles y sont aussi définies.

Chaque cas est illustré par des exemples concrets et véridiques: traduction devant les tribunaux, histoire précise du cas, déroulement de la poursuite, verdict. Des décisions prises par des Cours d'Appel et Supérieures y sont aussi inscrites, ainsi que des indications où se procurer des détails supplémentaires si désiré.

L'ouvrage inclut une énumération complète des obligations et des devoirs du dentiste envers ses patients.

La négligence dentaire au Canada a des proportions moindres qu'aux Etats-Unis: raison primordiale pour que la vigilance du dentiste s'exerce constamment car il se doit de déceler la plus petite offense.

Ce livre d'à peine 100 pages démontre clairement et positivement ce qui peut se produire si on ne prend pas garde. Il donne des conseils avertis pour éviter la poursuite en justice et pour se défendre avec succès s'il y a lieu.

Yves Dufresne

library • bibliothèque

Additions • Acquisitions

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- ENLOW, D. H. The human face; an account of the postnatal growth and development of the craniofacial skeleton. New York, Harper & Row (Hoeber Medical Division), 1968. 303 p. illus. \$22.00
- ERICSSON, S. G. Quantitative microradiography of cementum and abraded dentine; a methodological and biological study. (Acta Radiol. Suppl. 246, 1965). Copenhagen, Munksgaard, 1965. 137 p. illus.
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- LAZZARI, E. P. Dental biochemistry. Philadelphia, Lea & Febiger, 1968. 222 p. illus. \$9.25
- MICHIGAN UNIVERSITY SCHOOL OF DENTISTRY. Sesquicentennial symposiums. I. The future of dental practice. II. The projections of dental health needs and demands in the next decade. III. The progress of dentistry through research. IV. Emerging trends in dental education. Ann Arbor, University of Michigan, 1967. 78 p. \$2.50
- MUKHERJEE, S. Formation and prevention of supra-gingival calculus. (Journal of Periodontal Research, Vol. 3, Sup. No. 2, 1968.) Copenhagen, Munksgaard, 1968. 35 p.
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- POHTO, P. Catecholamine-induced salivary gland enlargement in rats. (Acta Odont. Scand., v. 24, supp. 45, 1966.) 73 p. illus. \$8.50
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A willingness to help

The plight of the 16 Czechoslovak dentists who failed the Ontario licensing examination last May was bound to evoke a good deal of public sympathy. Refugees from the invasion of their homeland last summer, they fled in order to carve a new life for themselves and their families in a free society. Our immigration officials did what they could to smooth their path but warned that Canada provides no open passport to the practice of dentistry. The Czechoslovaks came anyway. Ottawa helped them by providing a modest living allowance and the Royal College of Dental Surgeons of Ontario waived its rules to admit them to the examination. It tried to aid in other ways, too, by putting the immigrants in touch with established dentists of Czech background and providing access to dental library facilities. But sympathy and understanding do not compensate for basic language difficulties and a lack of familiarity with Canadian practice methods. And the Ontario college cannot lower its standards for one group, no matter how deserving it may be, without compromising its responsibilities toward the public.

Regret over the failure of the Czech dentists must now be accompanied by practical steps that would give immigrant professionals a better chance at the licensing examination. It is obviously not good enough to bring them to this country and deposit them at dentistry's doorstep. They should not be subjected to the rigours of a licensing examination without a prior period of supervised clinical practice and instruction. This may not be easy. Immigrant dentists, unlike physicians, cannot obtain this kind of experience through hospital internships. University dental clinics, the nearest equivalent, are filled to capacity from October to May and licensing authorities have neither the means nor the authority to remedy the situation by themselves.

Corporate members of the Canadian Dental Association, dental schools, provincial governments and the National Dental Examining Board of Canada have a mutual interest in the training of competent dentists. Representatives of each should therefore be brought together to explore the possibility of establishing updating courses for immigrant dentists, combined with government loans, which would aid them while they studied and which they could repay from later earnings. Whether such courses can be realized by utilizing dental school facilities in the evening or during summer months is a matter that deserves serious consideration.

To leave matters as they are would be unjust to foreign professionals and a potential loss to the country. More important, it makes Canadian dentists an easy mark for criticism which does not help to solve the real problem involved. That is why the profession will want to work toward a solution of the entire problem.

L'assurance-maladie au Québec est-elle déjà vouée à l'échec?

Advenant un accord entre Québec et Ottawa, le régime d'assurance-maladie pourrait entrer en vigueur en 1970. L'adhésion du Québec va malheureusement se faire dans des conditions tellement défavorables que l'on peut se demander dès maintenant si le projet ne mènera pas à un fiasco monumental.

Faisons ensemble le bilan de la situation au Québec. Le gouvernement actuel s'est toujours opposé au projet pour des motifs financiers, alléguant que la province ne pouvait se payer le luxe d'un régime universel et complet d'assurance-maladie, comme le stipulent les conditions d'admissibilités aux subventions fédérales. C'est donc certes à contrecœur que Québec s'engage sur la voie de l'assurance-maladie.

En deuxième lieu, tous les niveaux gouvernementaux poursuivent une politique d'austérité et essaient de réduire leurs dépenses. On aura donc tendance à choisir le régime le moins coûteux, mais qui pourra quand même satisfaire la population. A l'heure où tout le monde compte ses deniers, il est aussi peu probable qu'on soit porté à faire des largesses aux professions.

En troisième lieu, le dossier des négociations du gouvernement actuel ne présage rien de bon quand on se rappelle le Bill 25, la démission des radiologues, la grève des employés de la Commission des Transports de Montréal et les problèmes actuels de la Corporation des Enseignants du Québec. La profession médicale entamera donc les négociations avec un adversaire dur et qui ne bronche pas aisément.

A quoi le gouvernement va-t-il donner naissance après une gestation pareille? Un bel enfant sain apparaîtra-t-il ou recueillerons-nous un bébé malingre, détesté par les parents qui l'ont conçu, et qui désappointera certainement la famille qui espérait quelque chose de mieux? En d'autres mots, il serait difficile d'imaginer une mer plus houleuse pour larguer l'assurance-maladie.

Il est heureux que les dentistes québécois ne seront probablement pas inclus dès le début (sauf peut-être dans le cas de certains soins chirurgicaux accomplis à l'hôpital) et que ce délai nous accordera le temps de consolider notre position. Si nos rangs demeurent faibles et divisés comme ils le sont à l'heure actuelle, nous nous ferons massacrer par le gouvernement. Peu importe qui finira par négocier les conventions avec le gouvernement, que ce soit le Collège, l'Association professionnelle, ou l'Association provinciale, il faut que tous soient représentés par un seul organisme. L'union fait la force.

letters • courier

Democratic?

To the Editor:

Your two recent editorials, "The Search for Reasoned Compromise" (April) and "Dissent has its Virtue" (May), were provocative and deserve some comment.

In defining 'dissent' there is an underlying connotation that when two groups differ in opinion both are not dissenters; one group's opinion is established, the other group's opinion is considered dissenting. I feel that the CDA is an offspring of the provincial dental associations and perhaps one should consider that the dissent could be coming from the CDA.

Dr. P. E. Currie's quotation is, I feel, an accurate and concise statement. CDA committees provide the environment for "excursions" that can "... provide a necessary framework for dialogue within the profession." If you study this carefully, it emphasizes the Ontario Dental Association philosophy regarding the functions of the CDA.

The most important role that the CDA can play for its corporate members is to provide the environment to allow each of the provinces to develop, with all the information from all sources, the options or policies available to them. In this way, each corporate member should have a better understanding of its own problems, its own decisions, and the ultimate implications of its own actions.

I can see no need for the CDA to have policy statements on, for just one example, auxiliaries, since this is a provincial responsibility. If asked what its policy is, the CDA can answer that it has none, but that so many provinces feel this way and others feel that way, and that the CDA provides the environment for these groups to meet, discuss, and arrive at their own policies to suit their regional requirements and so satisfy the local demands.

As for the Journal reporting the issues "so that individual members may express their views . . .," this I agree with but it would be more enlightening if both sides of the issues were presented. I appreciate, however, that at times lack of space may preclude such a possibility.

You claim that resolutions of the CDA Board of Governors reflect the views of a majority of Canadian dentists. This statement is open to question. It is possible for the present Board of 19 members to split

10 to nine on a vote. If the nine happen to be from Ontario and Quebec, who together represent over 65 per cent of the dentists in Canada, then their opinions can be overruled. This situation will benefit from early and frank discussion.

A short five or six years ago, the dentists of Ontario were suffering from a state of mind which exhibited the 'We-They' syndrome. 'We' were the dentists of the province, 'They' were the ODA. To correct this condition, a management consultant firm was commissioned to study organized dentistry in the province. After studying the firm's report, the dentists decided how to reorganize the whole structure.

Since the adoption of the new constitution almost three years ago, the ODA and the individual members have merged to form a new unified 'We.' We have more nominations for offices, more elections, more individual interest and involvement, and all this makes for easier communication and understanding. Unfortunately, however, the 'We-They' syndrome still exists. 'We' are now the individual members and the ODA. The new bogeyman 'They' is now the CDA. A critical re-evaluation and appropriate action are necessary to convince ODA members that the CDA is also 'We.'

The final line of your editorial about "... jurisdictional sensitivities unfelt by most dentists" is technically quite accurate. It may be even more accurate to say that most dentists don't care how their associations are run or what their policies are, as long as the associations don't interfere with how each dentist runs his individual practice. I'd like to be proven wrong.

Ivan Hrabowsky, DDS,
131 Ontario St.,
St. Catharines, Ont.

Praise for Paedodontic Article

To the Editor:

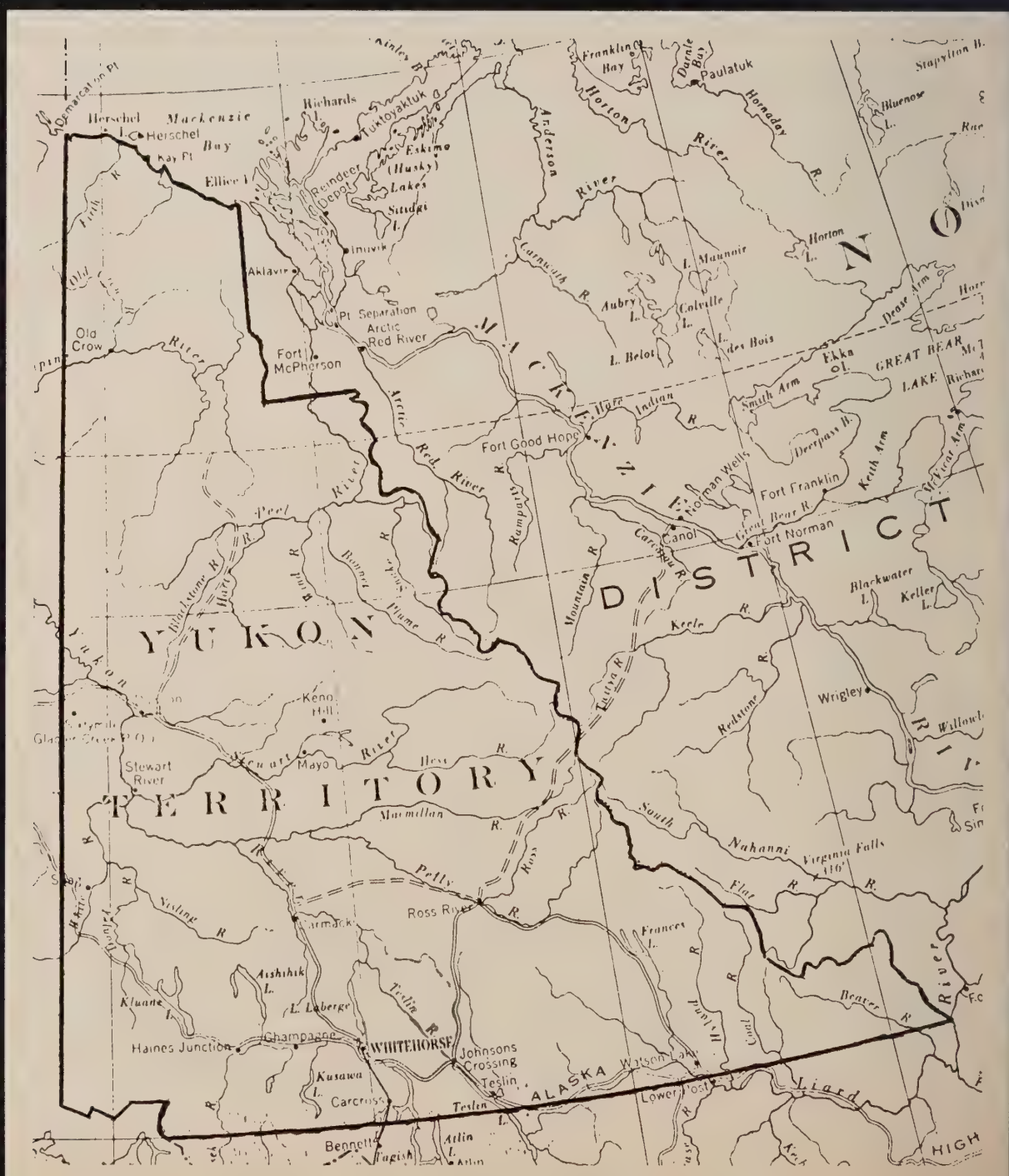
May I use your 'Letters' section to commend Dr. Keith Davey for his "Review of Paedodontics, 1967-68."

Dr. Davey has done a fantastic piece of work, both in scope and in accuracy. Whether this review was done as a labour of love or as a request from some authoritative body is immaterial. The fact is that dentistry owes Dr. Davey a debt of gratitude.

I offer Dr. Davey's article in reply to a recent correspondent who suggested that the Journal had deteriorated to the status of a "throw away" publication. This writer seems to have forgotten that dentistry's publications are more than likely a reflection of the status of the profession itself. Dr. Davey's review demonstrates quite nicely that Canadian dentistry has much to be proud of.

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Professor of Paedodontics,
University of Oregon Dental School,
Portland, Oregon 97201, USA.

the Yukon school dental care experiment



*C. R. Pugh, DDS,
Whitehorse,
Yukon*

In 1962 the Indian and Northern Health Services Directorate of the Department of National Health and Welfare appointed Dr. Gordon Butler as the new zone medical director for the Yukon Zone. Dr. Butler was anxious to improve all health facilities in the Territory. Very early in his tenure he consulted us about ways of improving overall dental health in the Yukon at a reasonable cost. He made it clear that he wanted results that would endure. At that time there were only two dentists in the Territory, Dr. E. M. Banks and myself. Our recommendations were based on a review of current literature and our previous experience in the Gurdon Robert MacKay Dental Clinic at Shelburne, Nova Scotia. We proposed that the territorial government employ a dental hygienist to work under our direction in the schools. She would provide topical stannous fluoride applications, teach dental health, and refer any child requiring treatment to a dentist. The dentists would provide any necessary treatment and would be compensated on a capitation basis. The program would start in Grade 1



FIGURE 1 Above, Miss Elizabeth Oldham at Christ the King School, Whitehorse. Below, Miss Freda Nye at Whitehorse Elementary School. Both dental nurses are using Kerr Electrotorque Units.

and expand by the addition of a new Grade 1 each year. We asked that the program be limited to the Whitehorse area initially.

This early proposal was subsequently modified because we could not recruit a dental hygienist. At the time, however, a New Zealand trained dental nurse resided in Whitehorse. She was willing to work as a dental hygienist and was accordingly employed by the territorial government. Our plan was further modified in that the participating dentists were to be paid on a fee-for-service basis.

We began in 1963 with 300 Grade 1 pupils in all Whitehorse schools. Almost immediately we were in trouble because treatment needs far exceeded our estimates. Moreover, the publicity engendered by the start of the project nearly doubled the normal demands for service. As quickly as possible we recruited a third dentist, Dr. J. M. MacIntosh, who helped to ease our task. Nevertheless, we were still unable to absorb all demands for treatment. The school year ended with nearly 60 children whose treatment was unfinished.

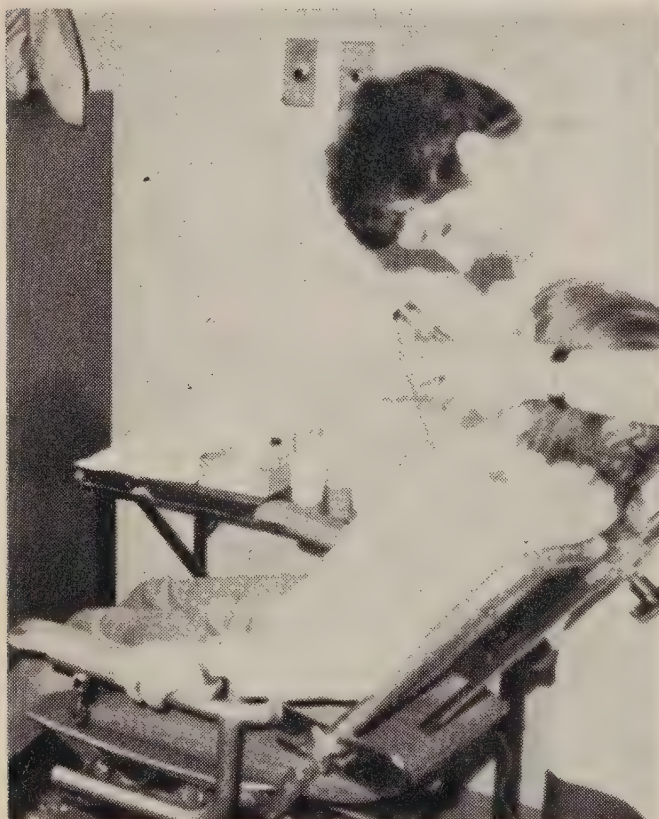


FIGURE 2 Miss Oldham at Watson Lake Elementary School. The dental nurse accompanies the dentist during his regular visit to this community of 1,500 residents about 300 miles from Whitehorse.

We reviewed the project during the summer and recommended further modifications which led to the plan we have followed in the past four years. According to this scheme, a dentist examines each child annually. The results are recorded on a chart along with instructions for necessary treatment. The dentist determines the services which fall within the capability of the dental nurse, namely simple restorations, extraction of deciduous teeth and topical fluoride applications. These are delegated to her in the orders on the chart. All other treatments and further examinations are a charge upon the dentist who retains full responsibility for the care rendered to each patient.

This arrangement has worked smoothly since its inception in the Whitehorse area. The only disruptions have resulted from loss of staff; one simply cannot recruit efficiently when replacements must come from sources eight or nine thousand miles distant. We were fortunate in retaining the original dental nurse, Mrs. Selby, for two years. For the past three years we have had two dental nurses on staff. They come from the United Kingdom or New Zealand and rarely stay longer than a year. We have had six dental nurses so far. Each one has exhibited a high degree of skill and all have been productive workers.

The project was gradually extended to the outlying areas of the Territory, but not without difficulty. Though we tried to secure the most suitable space for the dental nurse (Figures 1 and 2), in most rural schools she was compelled to work in coffee rooms, kitchens, business offices or classrooms. The inadequacies of space were partly compensated by the warm welcome extended by teachers and local residents. The dental nurses' high standard of service and productivity under these circumstances certainly attest to the adaptability of young people who are dedicated to their work.

CARIES CONTROL

Evaluation of the project is difficult because we recorded less detail on our

TABLE 1 Dental caries findings in 78 Whitehorse Grade 1 school children examined in 1963-64.

School	Enrolment	Caries-free children	Missing permanent teeth	Carious permanent teeth	Carious permanent tooth surfaces	Carious deciduous teeth	Carious deciduous tooth surfaces	Carious teeth requiring extraction
Whitehorse Elementary	33	0	0	59	75	115	203	22
Selkirk St. Elementary	22	4	0	18	22	48	64	1
Christ the King	23	2	0	30	32	86	129	14
Total	78	6	0	107	129	249	396	37

charts during 1963-64 than in subsequent years. Moreover, our educational efforts had to be curtailed that year in order to deal with the most pressing treatment needs. A further complication arises from the rapid turnover of population. Of the nearly 300 pupils we originally examined in Whitehorse, only 78 remained after four years.

Table 1 shows the dental caries findings in these 78 pupils at age six in 1963-64. Table 2 depicts similar findings in the same children four years later (1967-68). By this time caries in permanent teeth were largely confined to single surfaces and consisted mainly of incipient lesions in pits and fissures. Table 3 shows the dental caries findings in another group of 78 six year old pupils examined in 1967-68. These children were selected in alphabetic sequence from class lists in the same schools. There is a distinct differ-

ence between the requirements of this group and those examined in 1963-64. We attribute the improved status of the 1967-68 group to the special summer pre-school clinics which we began a few years ago and the city's water which has been fluoridated since 1961. The pre-school clinics are conducted at the Whitehorse General Hospital. Attendance is purely voluntary. No publicity is directed at adults and no pressure is exerted on parents to bring their children. Nevertheless, about half the eligible children within a 100 mile radius of Whitehorse have enrolled each summer. We therefore regard these clinics as an unqualified success.

Overall, the data indicate a trend toward better dental health. Fluoridated water, which now reaches about one-third of the population of the Yukon, and our systematic educational and treatment

TABLE 2 Dental caries findings in 78 Whitehorse Grade 5 school children examined in 1967-68. These are the same as the children whose findings are recorded in Table 1.

School	Enrolment	Caries-free children	Missing permanent teeth	Carious permanent teeth	Carious permanent tooth surfaces	Carious deciduous teeth	Carious deciduous tooth surfaces	Carious teeth requiring extraction
Whitehorse Elementary	33	0	4	11	14	4	7	3
Selkirk St. Elementary	22	4	0	4	4	4	4	6
Christ the King	23	0	0	14	18	3	4	2
Total	78	4	4	29	36	11	15	11

TABLE 3 Dental caries findings in 78 Whitehorse Grade 1 school children examined in 1967-68.

School	Enrolment	Caries-free children	Missing permanent teeth	Carious permanent teeth	Carious permanent tooth surfaces	Carious deciduous teeth	Carious deciduous tooth surfaces	Carious teeth requiring extraction
Whitehorse Elementary	33	9	14	11	14	54	158	28
Selkirk St. Elementary	22	9	0	3	5	53	83	2
Christ the King	23	11	4	3	4	26	36	12
Total	78	29	18	17	23	133	277	42

program have no doubt contributed to this improvement. The relatively modest requirements for maintenance care (Table 2) are particularly encouraging. Clearly, the sooner the battle is joined, the more easily is it won.

PUBLIC RELATIONS

Keenly aware of the importance of good relations in a public service, we had previously instituted several innovations to increase the availability of dental service. The added fact that this new venture was initiated jointly by the dental profession and the government was not lost on the public. To be sure, there were initial misgivings that the project, manned by a staff with divided loyalties, might drift helplessly or founder in a torrent of paperwork. But none of these fears materialized. We have, of course, had our share of arguments and differences of opinion. But all the participants placed the success of the project ahead of personal considerations. Indeed, most of the arguments have been over how best to further the project's aims.

Complaints about professional services have been few and far between. They are handled by the dentists who are also responsible for the day-to-day arrangements of the project. The zone medical director is our contact with higher levels of government. He is responsible for the availability of all health services throughout the Territory.

DISCUSSION

We embarked on this project in response to a call from officials of the territorial government. Had we rejected their invitation, there is no doubt that some other plan would have materialized without the benefit of professional guidance. Such a scheme might well have been undesirable for the public as well as the profession.

We recognized from the start that our project might not attain its objectives. We were convinced, though, that something of value could be gleaned regardless of the outcome. Moreover, our participation would show that practising dentists can and will cooperate with others in the community in seeking the best ways of delivering dental health care. This question gains added significance as the increasing longevity of natural teeth generates a greater need and demand for specialized services such as orthodontic and periodontic treatment. Some way must therefore be found to redistribute the general practitioner's mounting burden.

Our approach was two-pronged — by preventing dental caries and by giving the dentist another pair of hands. But there are limits to the latter reinforcement because the dentist must be reasonably familiar with each patient regardless of who performs the treatment.

In our project the dental nurse is responsible to the dentist who retains full control over the patients' treatment. He orders their treatment and they put their

trust in him even though the dental nurse performs much of the care. This relationship is analogous to that existing between the physician and the nurse in a hospital. Like her hospital counterpart, the dental nurse can always reach her superior by telephone whenever she encounters a problem which she cannot resolve by herself.

It is, of course, too early to assess our project. Nevertheless, two benefits can be expected to accrue from a 10 year pro-

gram of systematic education, fluoridation, topical fluoride applications and dental care for school children. First, the reduction of dental caries to more manageable proportion will permit dentists to pay more attention to malocclusion and periodontic disease. Secondly, such a program facilitates an accurate estimation of the cost of maintenance care, information that is essential for any dental health insurance scheme.

P.O. Box 1171

Back Numbers and Reprints of the Journal

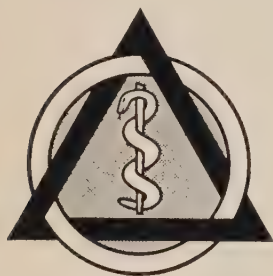
Individuals or libraries desiring complete Volumes 1-10 (1935-44) of the *Journal of the Canadian Dental Association* should direct their requests to the Johnson Reprint Corporation, 111 Fifth Avenue, New York, NY 10003, USA.

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dentistry in the news



Emblem
for Dentistry
Unveiled

CDA members have received a new pamphlet depicting the official emblem symbolic of dentistry in Canada. The design, approved at the 1968 annual meeting, uses as its central figure a single serpent coiled around a club-like staff. The Greek letters delta and omicron form the periphery of the design. When printed in full colour the background is in green, the letter omicron is in gold, the letter delta is in black, and the gold serpent and staff are outlined in black on the green background. The emblem is suitable for adaptation by any dental organization which may incorporate its name above or below the periphery of the letter omicron.

Canada and the Provinces

Czech Dentists Fail Ontario Examinations

All 16 Czechoslovak refugee dentists who came to Toronto last summer have failed the licensing examination conducted by the Royal College of Dental Surgeons of Ontario. Only nine of 36 candidates who took the examination were successful.

Before coming to Canada, the 16 Czechoslovaks had signed papers in their own language stating they understood they

might not be able to practise their profession in this country. The RCDS nevertheless waived its regulations last fall to admit them to its licensing examination. The Czechoslovaks' failure was attributed to divergent practice standards in Ontario and their own land, weakness in operative dentistry, insufficient familiarity with Canadian practice methods and language difficulties.

New Brunswick MLA, Dr. Savoie, Killed in Mishap

J. L. A. Savoie, a member of the New Brunswick legislature who was the focal point of a controversy over welfare payments, was killed April 19 when his car collided with a CNR passenger train 30 miles north of Fredericton.

The 44 year old Newcastle dentist completed his second session as a member of the legislature when the New Brunswick House prorogued April 18 after a grueling seven-week session which saw him become an opposition focal point in a controversial issue over payments for services to dental welfare patients.

Dr. Savoie, a native of Neguac, was a graduate of St. Joseph's University, Memramcook, the University of Geneva, Switzerland, and the Université de Montréal.

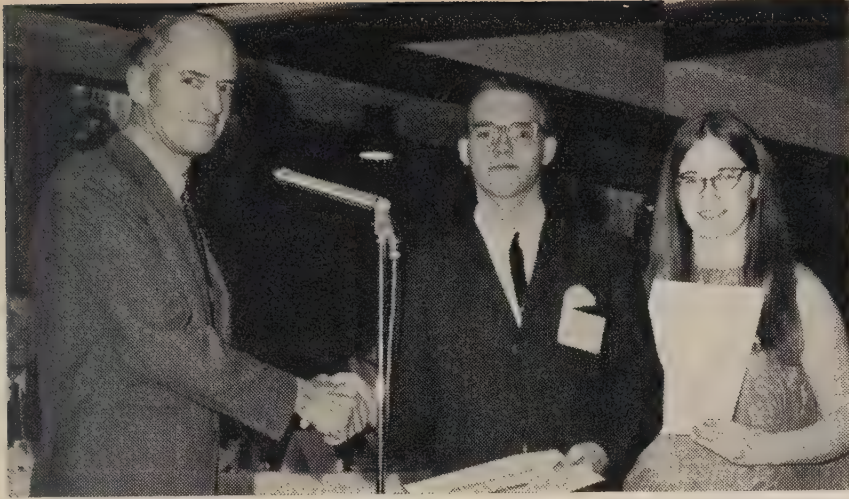
International Items

ADA-FDI Meeting Participants Can See Broadway Plays

The American Dental Association has contracted with Leblang's Theatre Ticket Agency to provide session participants with advance tickets to Broadway and off Broadway plays during the combined American Dental Association and Fédération Dentaire Internationale sessions in October in New York City.

Orders for plays should be submitted as far in advance as possible to make certain first choices are filled.

Order forms, showing orchestra seat prices for matinee and evening performances at 16 Broadway plays, may be obtained from the editorial department of



Sari Waern, a 15 year old Van Caron student who is in Grade 12 at the Nickel District Collegiate in Sudbury, Ont., and James Thomas, a Grade 12 student from Peterborough, Ont., are shown receiving from R. O. Brett of Regina the two Canadian Dental Association awards given at the eighth Canada-wide Science Fair held at the University of Saskatchewan, Regina, May 8-10. The CDA is one of the sponsors of the Youth Science Foundation which promotes extracurricular science activities and organized the annual fair.

the Canadian Dental Association. All orders must be paid in full and should be sent directly to Leblang's Agency with a self-addressed envelope.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on May 31:

Government Bond Fund \$13.852

Corporate Bond Fund \$15.056

Common Stock Fund \$27.707

Total assets (market value) of the plan were \$10,204,163.09 (up from \$10,042,305.79 in April).

The following common stock portfolio purchases and sales occurred during the preceding month: Bought 4,000 shares Beverly Enterprises; 1,500 shares MacMillan Bloedel; 3,000 shares Diebold; and 6,000 shares Consolidated Bathurst; Sold 60/100 of 1 share Metromedia; 2,000 shares United Westbourne; 1,000 shares Honeywell; and 2,000 shares Northern and Central Gas.

For further information please write to the Administrator of CDA-sponsored Pension and Insurance Plans, Professional and Industrial Pensions Ltd., 2249 Yonge St., Toronto 295, Ont.

Dental Organizations

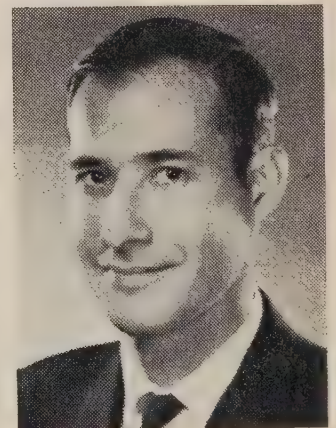
Dr. LaBelle Heads Dental Group in Quebec

Hubert LaBelle, Montreal, was recently elected president of the Quebec Professional Association of Dental Surgeons. Other executive officers elected at a meeting of the association's Board of Directors are: Georges Lepage, Lévis, first vice-president; Raymond Milette, St. Hyacinthe, second vice-president; P. P. Prud'Homme, Shawinigan, treasurer; and Luc Vinet, Montreal, secretary.

The QPADS, a voluntary association, concerns itself with the financial security of its members and dental care insurance.

Montreal Alpha Omega Elects Dr. Shevell

Melvyn Shevell has been elected president of the Montreal Alumni Chapter of



Melvyn Shevell

the Alpha Omega Fraternity and the Mount Royal Dental Society. He succeeds B. L. Mendel. Other officers named are: E. Slapcoff, vice-president; A. S. Wainberg, corresponding secretary; H. Ptack, recording secretary, M. P. Tenenbaum, treasurer; and M. M. Dines, historian-archivist.

Dr. Beach is President of Ontario Association

H. N. Beach of Ottawa was elected president of the Ontario Dental Association when that organization held its annual meeting in Toronto May 18-21. He succeeds G. K. Chapman of Fort Erie.

Born in Winchester, Ont., Dr. Beach graduated from the University of Toronto in 1937. He is registrar of the National Dental Examining Board of Canada and a former president of the Eastern Ontario Dental Association.

Ivan Hrabowsky of St. Catharines was named president-elect. Other members of the Executive Council are G. P. Copeland, Sudbury; W. C. Deacon, Ottawa; J. E. Durran, Hamilton; J. A. Guest, London; W. L. Heaslip, Toronto; and L. J. Schiller, Windsor. K. F. Pownall is secretary-treasurer. Representatives to the CDA Board of Governors are Ivan Hrabowsky, St. Catharines; W. C. Deacon, Ottawa; and W. J. Spence, D. C. Clee, E. J. Siegel and H. M. Jolley, Toronto.

Ottawa Association Elects Officers

The Ottawa Dental Society has new officers for 1969-70. G. G. Patenaude is the new president, succeeding H. C. Bugden. Other officers are J. Berman, vice-president; C. G. Travis, secretary; D. J. O'Connor, treasurer; and H. F. Biewald, chairman, Mediations Committee.

Dental Education

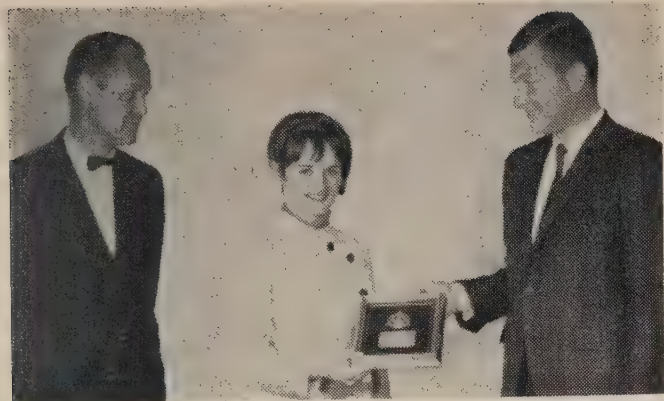
UWO to Launch Graduate Clinical Programs

The University of Western Ontario's Faculty of Dentistry took the first major step in graduate clinical education March 24 when its faculty council approved a report on advanced clinical training in dentistry. The report recommends the establishment of a new degree of master of clinical dentistry (M Clin Dent) to be awarded on successful completion of a prescribed course. It also specifies that the depth, quality and content of clinical training must meet the requirements for specialty certification in Ontario and fellowship examination by the Royal College of Dentists of Canada.

The Faculty hopes to obtain necessary university approval in time to permit the



Three governors of the College of Dental Surgeons of the Province of Quebec attended the Ontario Dental Association Board of Governors meeting in Toronto May 10-11. Shown above are C. E. Gosselin, Sherbrooke, H. L. Mussells and G. M. Dundass, both of Montreal. Left, N. A. Mancini, ODA Board chairman thanks Dr. Gosselin who addressed the ODA governors in French.



George Scott (right), immediate past president of the Hamilton Academy of Dentistry, recently presented the Academy's oral medicine award to Mrs. Marilyn MacLoghlin, a student at the University of Western Ontario. D. S. Moore, UWO professor of oral medicine, participated in the ceremony. The sterling silver award is given annually to the student with the highest standing in second year oral medicine.

initiation of the graduate clinical program in the fall of 1971.

Graduate and Undergraduate Schools Projected at University of Calgary

New facilities for graduate dental studies, to be followed by eventual establishment of a full undergraduate program, may become a distinct possibility at the University of Calgary. The proposal has the backing of the Calgary and District Dental Society and the Alberta Dental Association. It has been approved by the university's Planning Committee for the Health Sciences but still requires approbation from the Academic Planning Committee, the General Faculty Council, the Board of Governors and the university's Commission.

Educational Opportunities

ADVANCED PROGRAMS

■ Advanced programs are offered by Tufts University School of Dental Medicine in oral surgery, periodontics, restorative dentistry, oral pathology, endodontics and radiology. Applicants may pursue courses leading to a certificate or a master of science degree, concomitant with specialty training. Programs in oral surgery, periodontics, oral pathology and endodontics have preliminary provisional

approval from the Council on Dental Education of the American Dental Association. Direct inquiries to J. H. Kronman, Director, Division of Graduate Studies, Tufts University School of Dental Medicine, 136 Harrison Ave., Boston, Massachusetts 02111, USA.

Economics

Consumer Price Index Jumps 1.1 per cent in April

Higher premiums for private medical plans in Ontario and Alberta helped to push the consumer price index up 1.1 per cent in April. Prices generally rose to 4.4 per cent higher than in April of 1968.

A good deal of the rise can be explained by new taxes which came into effect in April, and by normal increases for this time of year, especially in food.

Food prices were higher than in March by 1 per cent because of seasonal advances and new provincial sales taxes which helped drive up prices of restaurant meals.

The upward trend in mortgage interest rates helped boost the housing index by 0.7 per cent. Rents were marginally higher while prices of household goods went up more substantially.

New taxes pushed the tobacco and alcohol index up by 3 per cent.

Higher medical premiums contributed to a major increase of 3.2 per cent in health and personal care costs. There were widespread increases in fees by physicians, dentists and optometrists.

Transportation costs rose by 1.4 per cent, mostly because of higher transit fares in Montreal, Winnipeg and Hamilton. There were also some new automobile costs as two provinces extended sales taxes to cars.

Prince Edward Island Offers Incentives to Dentists

To attract dentists to practise in Prince Edward Island, the provincial government will offer a ready made private practice without any financial risk on the part of the dentist.

Under the program, expected to begin

this year, a completely equipped dental office will be provided rent free for one year.

The province will guarantee a minimum gross income of \$9,000 for half-time service to needy children and to Grade 1 and 2 children from rural areas.

Provincial Health Minister Bruce Stewart believes a dentist could earn between \$15,000 and \$20,000 in the first year. Thereafter, he hopes the dentist will take advantage of the practice establishment loan that is available and remain in the province.

Amendment Loosens Advertising By Alberta Mechanics

Bill 78 amending Alberta's Dental Mechanics Act passed through committee-of-the-whole in the Alberta legislature May 5. It contains the following amendment to Section 26 (1) of the act:

"(1A) Notwithstanding Subsection (1), a certified dental mechanic may advertise his place of business under a trade name approved by the chairman of the [Dental Mechanics] Board."

Attempts to have any trade name include the words "dental mechanic" or "registered dental mechanic" were defeated. G. E. Decker, secretary of the Alberta Dental Association, points out that Bill 78 now leaves the advertising of the mechanic's place of business up to the chairman of the Board. He could approve such terms as 'dental laboratory,' 'denture clinic,' or any other designation that could imply that dentistry was involved. This concept, says Dr. Decker, is directly opposed to the intent of the Mechanics Act.

Utilization of Toronto Dental Welfare Program Falls Below Expectations

Utilization and costs of basic dental care available to short-term welfare recipients in Metropolitan Toronto are lower than anticipated, according to W. L. Turnbull of the Metro welfare department. The plan is costing \$6,000 to \$8,000 a month, shared equally by the municipality and the province. About 300 people use the

plan monthly. Indications are that expenses will fall far short of the projected \$432,000 annual cost.

The beneficiaries are Metro's 34,000 jobless who may apply monthly for dental cards that can be taken to a private dentist. The dentist enters his fee on the card, forwards it to the Ontario Dental Association and is paid at a rate up to 90 per cent of the ODA fee schedule. The ODA then bills the welfare department monthly. Still to be resolved is the problem of providing dentures. At present, the welfare department allows only \$65 for complete dentures.

Quebec Shifts Position Over Medicare

Provincial Finance Minister Paul Dozois has told Quebec residents they may get universal medicare by July 1970 if the province can persuade Ottawa to hand back \$135 million it now collects as Quebec's share of the federal 'social development tax.' The statement was contained in a recent budget speech delivered in the Quebec national assembly. Cost of medicare in Quebec is estimated at \$285 million during the first year.

Commenting on the proposal, federal Finance Minister Edgar Benson said that present federal laws do not entitle provinces to fiscal equivalence for their own medicare schemes. However, Quebec will receive its share of federal medicare contributions if the province's version conforms to the basic criteria embodied in the federal Medical Care Act. These stipulate that the provincial scheme must be publicly administered, must be portable from province to province, must cover as a minimum the services of general medical practitioners and specialists, and must conform to predetermined standards of universality.

Royal Canadian Dental Corps

Preventive Program Encouraging, says RCDC Head

The Royal Canadian Dental Corps is using preventive dentistry to reduce treatment

needs in the Canadian Forces. Details of the plan were outlined in Vancouver by Brig.-Gen. B. P. Kearney, Director General of Dental Services for the Canadian Forces, when he addressed the British Columbia Dental Association convention May 15-17.

Brig.-Gen. Kearney said that recently completed studies have fully delineated the Forces' treatment needs. The RCDC preventive program, now in its second year, has given encouraging results, he said.

Four Officers Promoted

Canadian Forces Headquarters recently announced the promotion to major of Captains **R. B. Andrews**, Kamloops, BC; **J. A. A. Boucher**, Notre-Dame du Lac, Que.; **F. H. Harreman**, Dutch East Indies; and **D. G. Jones**, The Pas, Man.

Announce 49 Postings

Canadian Forces Headquarters recently announced a major shuffle in the postings of 49 officers of the Royal Canadian Dental Corps. They are:

Lt.-Col. **J. M. Smith** of Vancouver, from London to Petawawa, Ont.;
 Lt.-Col. **W. R. Thompson** of Campbellford, Ont., from Toronto to Trenton, Ont.;
 Lt.-Col. **A. G. Andrews** of Toronto, from Borden, Ont., to Toronto;
 Lt.-Col. **J. C. Brick** of Windsor, from St. Hubert, Que., to Ottawa;
 Lt.-Col. **G. MacDougall** of Sherbrooke, Que., from Ottawa to St. Hubert, Que.;
 Maj. **I. W. Susser** of Montreal, from Toronto to Winnipeg;
 Maj. **G. W. Hill** of South Burnaby, BC, from Soest, Germany, to Edmonton;
 Maj. **J. M. A. Donely** of Listowel, Ont., from Borden, Ont., to Cornwallis, NS;
 Maj. **I. A. C. MacDonald** of Mermaid, PEI, from Toronto to Kingston, Ont.;
 Maj. **G. I. J. Bisailon** of Blezard Valley, Ont., from Petawawa, Ont., to Montreal;
 Maj. **C. J. Sivell** of Toronto, from Oakville, Ont., to Toronto;
 Maj. **L. Dombowsky** of Claybank, Sask., from Chatham, NB, to London;
 Maj. **A. N. Swanzey** of Cultus Lake, BC, from Soest, Germany, to North Bay, Ont.;
 Maj. **H. W. Brogan** of Halifax, from Cold Lake, Alta., to Borden, Ont.;
 Maj. **L. A. Reynolds** of Queensport, NS, from Washington, DC, to Borden, Ont.;
 Maj. **R. M. MacDonald** of Mulgrave, NS, from Casteau, Belgium, to St. Hubert, Que.;
 Maj. **J. F. A. Marcell** of Montreal, from Valcartier, Que., to Washington, DC;
 Maj. **J. F. Begin** of Montreal, from Winnipeg to Toronto;
 Maj. **M. N. Deyette** of Parry Sound, Ont., from Soest, Germany, to Toronto;
 Maj. **J. J. N. Wright** of Exshaw, Alta., from Toronto to Halifax;
 Maj. **F. H. Harreman** of Dutch East Indies, from Moose Jaw, Sask., to Winnipeg;

Maj. **J. Boucher** of Notre-Dame du Lac, Que., from Gypsumville, Man., to Chatham, NB;
 Maj. **D. G. Jones** of The Pas, Man., from Shilo, Man., to Soest, Germany;
 Capt. **Z. Tukums** of Toronto, from Rockcliffe, Ont., to Cyprus;
 Capt. **J. W. Bergerman** of Humboldt, Sask., from Clinton, Ont., to Portage La Prairie, Man.;
 Capt. **W. O. Fiolek** of Glace Bay, NS, from Mont Apica, Que., to Halifax;
 Capt. **M. E. Blasetti** of Nordegg, Alta., from Winnipeg to Halifax;
 Capt. **W. Budzinski** of Insinger, Sask., from Cold Lake, Alta., to Edmonton;
 Capt. **J. A. L. Carrier** of Longueuil, Que., from Val D'Or, Que., to Rockcliffe, Ont.;
 Capt. **D. C. Morgan** of Guelph, Ont., from Moosonee, Ont., to Soest, Germany;
 Capt. **N. S. Misura** of Calgary, from Borden, Ont., to Cornwallis, NS;
 Capt. **J. L. Berthiaume** of St. Hyacinthe, Que., from St. Jean, Que., to Val D'Or, Que.;
 Capt. **W. A. Gray** of Orangeville, Ont., from Halifax to Soest, Germany;
 Capt. **R. G. Kerr** of Winnipeg, from Clinton, Ont., to Toronto;
 Capt. **J. N. B. Trepanier** of Valleyfield, Que., from Calgary to Valcartier, Que.;
 Capt. **H. W. Wilford** of Palmerston, Ont., from Winnipeg to Gypsumville, Man.;
 Capt. **J. W. Montgomery** of Ailsa Craig, Ont., from Petawawa, Ont., to Lahr, Germany;
 Capt. **B. H. Weeks** of Vancouver, from Lahr, Germany, to Edmonton;
 Capt. **T. C. Ringland** of Fitzroy Harbour, Ont., from Trenton, Ont., to Gimli, Man.;
 Capt. **E. F. Foley** of Bloomfield, PEI, from Halifax to Soest, Germany;
 Capt. **Y. J. A. Gagnon** of Montreal, from Gagetown, NB, to Mont Apica, Que.;
 Capt. **G. S. Zwicker** of Caledonia, NS, from Shearwater, NS, to Trenton, Ont.;
 Capt. **D. L. Poy** of Nanaimo, BC, from Gimli, Man., to Esquimalt, BC;
 Capt. **J. M. Steadman** of Regina, from Winnipeg to Trenton, Ont.;
 Capt. **T. M. Clark** of Ottawa, from Rockcliffe, Ont., to Cornwallis, NS;
 Capt. **D. L. Brown** of Edmonton, from Saskatoon, Sask., to Moose Jaw, Sask.;
 Capt. **B. W. Yates** of Orangeville, Ont., from Toronto to Moosonee, Ont.;
 Capt. **J. D. McCallum** of Port Arthur, Ont., from Portage La Prairie, Man., to Casteau, Belgium; and
 Capt. **D. G. Wilson** of Tisdale, Sask., from Edmonton to Borden, Ont.

Research

TMJ Conference in Chicago Sept. 5-7

Results of six years of intensive interdisciplinary research on the temporomandibular joint will be presented at a three day conference September 5-7 at the University of Illinois Medical Centre Campus, Chicago. Canadian and American dentists and physicians have been invited to the conference on "The Function and Dysfunction of the Temporomandibular Joint," sponsored by the TMJ centre in the university's College of Dentistry, 808 South Wood St. Research reports and position papers will be presented by faculty members, clinicians and research

scientists in the TMJ centre and College of Dentistry.

Dentists and physicians interested in attending this conference should apply to the TMJ Research Centre, University of Illinois College of Dentistry, 808 South Wood St., Chicago, Illinois, and enclose a biographical sketch, including their special fields of interest and a list of published articles. A registration fee of \$100 will be required and attendance is by invitation only.

New Technology

Fountain Pen Sized Swedish X-ray Unit

An x-ray unit no larger than a fountain pen has been developed in Sweden. Multipurpose and highly portable, the unit is about a third of an inch wide and four inches long. Its radiation source is radioactive iodine deposited on a silver wire and sealed in a metal capsule with a plastic radiation shield. It thus needs no attachment to a power source and can be used any number of times for about two months before recharging.

Potential uses for the unit are said to range from mass dental examinations and specialized medical uses to industrial

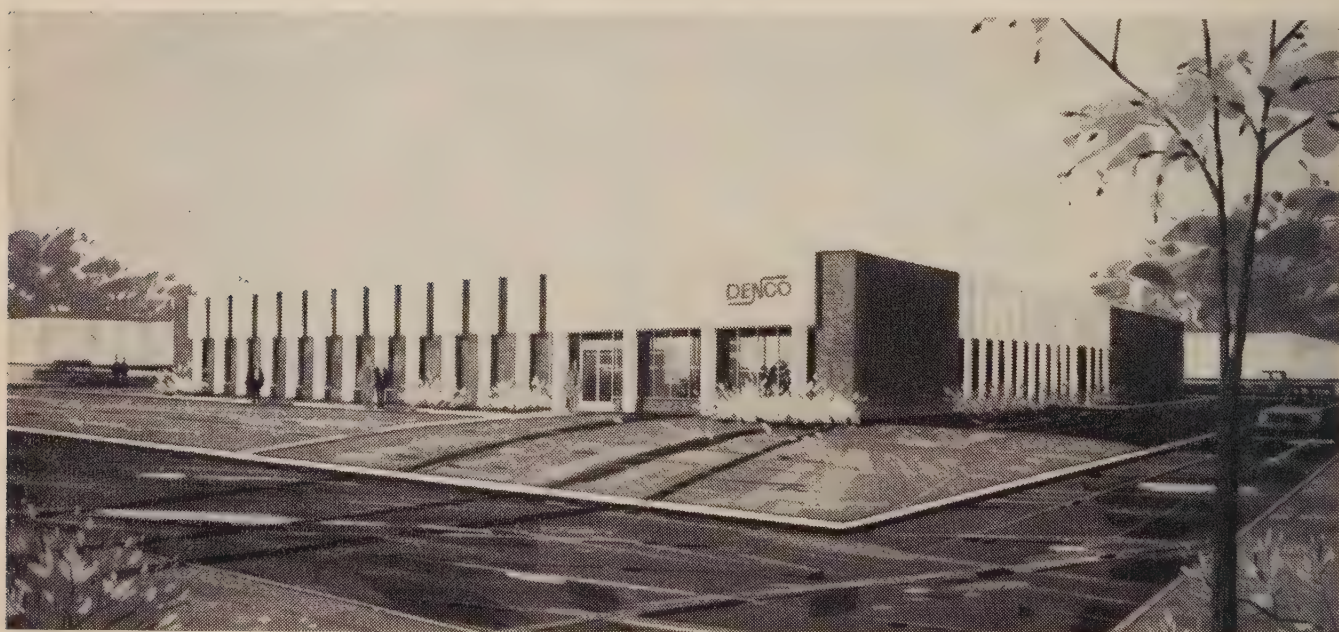
analysis of materials and welding joints, particularly in aircraft and electronics manufacturing.

Public Health

Saskatchewan Dentists Conduct Arctic Survey

Three dentists from the University of Saskatchewan returned recently from a 16 day dental survey of some 1,000 residents of central arctic communities of northern Canada. The members were C. W. B. McPhail, professor and head of the Department of Social and Preventive Dentistry; T. M. Curry, provincial dental director and assistant clinical professor; and R. D. Hazelton, associate professor, orthodontics. Travelling by chartered aircraft, the team visited Eskimo Point, Whale Cove, Rankin Inlet, Coral Harbour, Baker Lake and Repulse Bay, which lies just within the Arctic Circle.

They recorded dental findings from the total school population and some pre-school and adult members in each community. Clinical photographs and casts were obtained of the more interesting pathological conditions. Doctors McPhail, Curry and Hazelton also conducted a bacteriological study in three of the communities and provided emergency treatment



The Dental Company of Canada (Denco) recently moved its Toronto office into a brand new building located near the intersection of the Macdonald-Cartier Freeway and the Don Valley Parkway in northeastern Metro Toronto. The building is completely equipped to serve the needs of dentistry.

in all of the population centres visited.

Preliminary results indicate a high level of malocclusion in school age children, and particularly a trapping of the upper lateral incisors by the lower lateral incisors and cuspids. Children aged 9-16 were relatively free of tooth decay, but caries was much more prevalent in younger children. The three dentists noted several interesting cases of caries arrestment and morphological anomalies of the teeth.

Their project was assisted by grants from the Department of National Health and Welfare and the Institute for Northern Studies of the University of Saskatchewan, Saskatoon.

Fluoridation

Ireland Presses Forward with Fluoridation

In Ireland some 1,180,000 persons, including residents at Dublin, Cork, Limerick, Waterford, Galway, Dundalk and Drogheda, are now drinking fluoridated water, according to Sean Flanagan, Irish minister for health. Further supplies serving an additional 100,000 people will be fluoridated in the coming months. By the end of this year more than two-thirds of the total population which can be provided with fluoridated water supplies will be so served.

The government is also examining the feasibility of topical fluoride applications and fluoride mouth rinses in areas where fluoridated water supplies will not be available. Pilot schemes are now under way in six rural areas, Mr. Flanagan said.

Awards and Honours

The Alberta Dental Association recently awarded life memberships to **J. B. Carmichael**, Edmonton; **J. B. Long**, Red Deer; and **N. J. Quigley**, Banff.

Deaths

Armstrong, Webster John. Iroquois, Ont. Royal College of Dental Surgeons of Ontario, 1909. 17-5-69. Survived by Mabel (wife); Alan (son); Mrs. W. H. Caulfield (daughter); Ronald and Ann Caulfield and Beverley and Brent Armstrong (grandchildren).

Campbell, Cephas R. 92. Kingston, Ont. University of Buffalo, 1906. 30-4-69. Survived by George and Rowland (sons) and Mrs. J. A. McLeod (daughter).

Cummer, Harold Howard. 86. Toronto. Royal College of Dental Surgeons of Ontario, 1922. 5-5-69. Survived by Mrs. D. G. McKie (daughter) and D. Craig McKie (grandson).

Kelly, John I. 83. Ottawa. Royal College of Dental Surgeons of Ontario, 1914. 6-5-69. Survived by Bernard and Jack (sons); Mrs. J. J. Quinlan and Mrs. R. V. Moore (daughters); and 16 grandchildren.

Kennedy, Edward Lyman. 67. Sarnia, Ont. University of Toronto, 1926. 30-4-69. Survived by Jeannette (wife).

St-Pierre, Willie. 82. Montréal. Université Laval, 1913. 2-5-69. Survécuté par Sr St-Pierre-de-la Résurrection de la Congrégation Notre-Dame et Mme J. E. Lamarche (soeurs).

René Jaccard Periodontology Prize • Arpa Internationale (International Association for Periodontic Research) invites submissions for the 1969 Dr. L. C. René Jaccard Prize. This international competition is open to any dentist. The prize will be awarded at 19th Arpa Congress in Bâle, Switzerland, September 10-13. Submissions may consist of any original scientific work on periodontic disease published or performed between 1966 and 1969. Five copies should be addressed to: M. J. Matthey, Secretary of Arpa Internationale, 2 rue Bartholoni, 1204 Geneva, Switzerland.

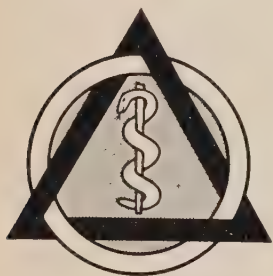
les actualités dentaires

L'Association

L'Alberta porte à \$65 sa contribution à l'ADC

Le Conseil d'administration de l'Association dentaire de l'Alberta a voté le 19 avril d'augmenter de \$60 à \$65 la contribution per capita de cette province à l'Association dentaire canadienne. Le Dr G. E. Decker, secrétaire de l'Association dentaire de l'Alberta a écrit au Dr W. G. McIntosh, secrétaire de l'ADC "... l'Association dentaire de l'Alberta désire assurément se classer parmi les organismes corporatifs qui paient la contribution nécessaire pour couvrir les frais d'administration de l'ADC".

L'Alberta est la cinquième province à porter sa contribution à \$65, après Terre-Neuve, la Nouvelle-Ecosse, le Nouveau-Brunswick et la Colombie britannique.



L'émblème
de l'art dentaire

Les membres de l'ADC viennent de recevoir une nouvelle brochure concernant l'émblème officiel de l'art dentaire au Canada qui a été approuvé lors de l'assemblée annuelle de 1968. Cet emblème comporte, au centre, l'image d'un serpent enroulé autour d'un bâton en forme de massue. Sur le pourtour apparaissent les lettres grecques delta et omicron. Les couleurs sont les suivantes: or pour la lettre omicron, noir pour la lettre delta, le ser-

pent et le bâton sont aussi de couleur or entourés d'une ligne noire qui les détache du fond vert. L'émblème peut être adapté par les organismes dentaires qui peuvent y inclure leur nom au-dessus ou au-dessous de la périphérie de la lettre omicron.

L'ADC rend honneur aux lauréats de l'Exposition scientifique

Sari Waern, 15 ans, de Van Caron, étudiante de 12^e année au Nickel District Collegiate de Sudbury (Ont.) et James Thomas, étudiant de 12^e année à Peterborough (Ont.) ont remporté les prix

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association dentaire canadienne étaient les suivantes au 31 mai:

fonds d'obligations gouvernementales \$13.852;

fonds d'obligations corporatives \$15.056;

Fonds d'actions ordinaires \$27.707.

L'avoir total (valeur marchande) du régime se montait à \$10,204,163.09 (au lieu de \$10,042,305.79 au mois d'avril).

Au cours du mois précédent, les transactions, achats et ventes, d'actions ordinaires ont été les suivantes: achat 4,000 actions de Beverly Enterprises; 1,500 actions de MacMillan Bloedel; 3,000 actions de Diebold; et 6,000 actions de Consolidated Bathurst; vente 60/100 d'une action de Metromedia; 2,000 actions de United Westburne; 1,000 actions de Honeywell; et 2,000 actions de Northern and Central Gas.

Pour de plus amples renseignements, veuillez écrire à: The Administrator of CDA-sponsored Pension and Insurance Plans, Professional and Industrial Pensions Ltd., 2249 Yonge St., Toronto 295, Ont.

offerts par l'Association dentaire canadienne lors de la 8^e Exposition scientifique du Canada qui s'est tenue du 8 au 10 mai à l'université de la Saskatchewan (Regina).

L'Association dentaire canadienne contribue à la Fondation scientifique pour la Jeunesse qui a pour but d'encourager les activités scientifiques para-scolaires et d'organiser l'exposition annuelle. Cette année, les lauréats ont été choisis au nom de l'ADC par le Dr R. O. Brett de Regina.

Le Canada

Le Dr Savoie, député au Nouveau Brunswick, se tue dans un accident

Le Dr J. L. A. Savoie, membre de l'assemblée législative du Nouveau-Brunswick, a trouvé la mort le 19 avril lorsque sa voiture est entrée en collision avec un train de voyageurs du Canadien National à 30 milles au nord de Fredericton. Il s'était récemment trouvé au centre d'une controverse sur les paiements pour l'assistance sociale dentaire.

Le Dr Savoie exerçait à Newcastle et était âgé de 44 ans. Il venait de terminer sa seconde session à la législature du Nouveau-Brunswick lorsque l'assemblée arrêta de siéger le 18 avril, après une épuisante session de sept semaines durant laquelle il devint le centre d'intérêt de l'opposition à propos d'une question de paiements de services accordés aux assistés dentaires.

Né à Neguac, le Dr Savoie était diplômé de l'université St-Joseph à Memramcook, de l'Université de Genève (Suisse) et de l'Université de Montréal.

Chronique internationale

Lois internationales relatives à l'exercice dentaire

La Fédération dentaire internationale vient d'annoncer qu'une étude des mesures législatives qui gouvernent l'exercice dentaire à travers le monde — y

compris les conditions dans lesquelles les chirurgiens-dentistes diplômés peuvent exercer à l'étranger — se poursuit en ce moment sous la direction du Dr W. G. Stewart Ross, secrétaire-adjoint de la FDI. Les associations nationales et les écoles dentaires du monde entier ont offert leur coopération à l'élaboration de cet important document.

Ligue française pour la santé dentaire

La Ligue pour la Santé dentaire dès l'Enfance vient d'être créée en France. La ligue veut avertir le public des dangers de la carie dentaire et sensibiliser les pouvoirs publics afin que tout soit mis en œuvre en faveur d'une santé dentaire dès l'enfance. La ligue veut également populariser l'emploi d'agents préventifs comme le fluor.

Evaluation de la santé du chirurgien-dentiste au congrès ADA-FDI

Tous les chirurgiens-dentistes inscrits aux Sessions annuelles de l'Association dentaire américaine et de la Fédération dentaire internationale qui auront lieu à New York du 11 au 17 octobre 1969 auront le droit de faire évaluer leur état de santé. Cette évaluation comportera un électrocardiogramme, des tests de pathologie clinique, une radiographie de la cage thoracique, la mesure de la pression sanguine, un test spirométrique, un examen de la tête, du cou et de la bouche, un test cytologique au besoin et un examen radiographique "Panorex".

Connecticut: escouade dentaire pour grands désastres

L'Association dentaire du Connecticut et la police de cet état ont créé la première escouade dentaire pour cas de désastre des Etats-Unis. Cette escouade se compose de dentistes volontaires et effectuera l'identification dentaire des victimes de grandes catastrophes comme les incendies, les inondations et les accidents d'aviation.

Les organisations dentaires

Le docteur Shevell à la présidence de la Fraternité Alpha Omega de Montréal

Le Dr Melvyn Shevell vient d'être élu président de l'Association des Anciens de la Fraternité Alpha Omega de Montréal et de la Société dentaire du Mont-Royal. Il succède au Dr B. L. Mendel. Les autres membres du bureau sont: E. Slapcoff, vice-président; A. S. Wainberg, secrétaire; H. Ptack, rapporteur; M. P. Tenenbaum, trésorier; et M. M. Dines, historien-archiviste.

Le Dr. LaBelle est choisi président de l'Association professionnelle

Lors d'une récente réunion de son Conseil d'administration, l'Association professionnelle des Chirugiens-Dentistes du Québec, élisait le Dr Hubert LaBelle à la présidence. A la même occasion, le Conseil confirmait au Bureau exécutif les membres suivants: Dr Georges Lepage, 1^{er} vice-président, de Lévis; Dr Raymond Millette, 2^e vice-président, de St-Hyacinthe; Dr Luc Vinet, secrétaire, de Montréal; Dr P. P. Prud'homme, trésorier, de Shawinigan.

Le but principal de l'Association professionnelle est de veiller aux intérêts économiques de ses membres. Ce but devient de plus en plus important avec l'avènement prochain de l'assurance-maladie qui englobera au départ certains soins chirurgicaux dentaires.

Les membres qui forment l'Association



Le Dr Hubert La Belle

professionnelle y adhèrent librement, une particularité importante qui lui donne d'autant plus de force.

L'Association a déjà recommandé, à plusieurs reprises, que la loi de l'assistance médicale du Québec soit amendée. A l'heure actuelle, les soins bucco-dentaires énumérés dans la loi de l'assistance médicale sont défrayés s'ils sont rendus par un médecin et ne le sont pas s'ils sont pratiqués par un dentiste.

L'éducation dentaire

Convocation du Collège royal à Montréal

La convocation du Collège royal des chirurgiens-dentistes du Canada pour l'année 1969 aura lieu le samedi matin 12 juillet au Redpath Hall de l'université McGill. Le titre de membre honoraire sera décerné au Dr P. G. Anderson de la faculté de chirurgie dentaire de l'université de Toronto et au Dr H. E. Bulyea d'Edmonton. Les membres admis sur examen y recevront également leur titre. La convocation sera suivie d'une réception, d'un déjeuner et de la réunion annuelle du collège. Le Dr P. G. Anderson prononcera le discours de convocation. Le conférencier du déjeuner sera le Dr M. A. Rogers de l'université McGill.

Quatorze dentistes deviennent membres du Collège royal

Le Collège royal des chirurgiens-dentistes du Canada a annoncé les noms de 14 dentistes qui viennent de réussir à l'examen initial intérimaire. Voici la liste des postulants admissibles à devenir membres du collège:

Orthodontie: W. D. Kirstine, de Victoria; R. M. MacAllister, de Vancouver; A. C. Mendel, L. L. Prosterman et M. D. Rennert, de Montréal; P. G. Peloso, de Kitchener, Ont.; S. Rosenthal, de Toronto; et T. Wachna, de Windsor;

Pédodontie: R. S. Margolis, d'Edmonton;

Périodontie: M. M. Dines, F. I. Muroff et A. S. Wainberg, de Montréal; et M. Poplove, d'Ottawa;

Prosthodontie: R. G. Jones, de Montréal.

Le Collège royal procède à la reconnaissance des experts non-spécialisés

Le Collège royal des chirurgiens-dentistes du Canada a déjà commencé à exécuter l'article 3 (d) de sa constitution, selon son secrétaire-registraire, le Dr J. E. Speck. L'article 3 (d) permet au Collège "de pourvoir à la reconnaissance et à la désignation de dentistes qui possèdent des qualifications spéciales dans des domaines qui ne sont pas reconnus comme des spécialités". On s'attend à ce que quelques membres soient admis en 1969 en vertu de cet article lors de la convocation du Collège à Montréal.

L'enseignement dentaire

Prêt de films sur le cancer

Suivant les recommandations du Conseil de l'enseignement, l'Association dentaire canadienne vient d'acquérir deux copies supplémentaires du film *Oral Exfoliative Cytology* (sonore, couleur, 18 minutes), qui seront à la disposition de tous les dentistes du Canada. L'ADC dispose également d'autres films sur le cancer: *Oral Cancer* (sonore, couleur, 31 minutes) et *The Dentist and Cancer* (sonore, couleur, 21 minutes). Ces films très recommandés sont réservés exclusivement à la profession et peuvent être empruntés sans frais par l'intermédiaire du distributeur: Modern Talking Picture Service, Inc., 1875 Leslie St., Don Mills 405, Ont. Téléphone: 444-7347 (indicatif régional 416).

Les prix du Concours du Mémorial de guerre sont décernés à des étudiants de McGill et de Toronto

Le Conseil de l'enseignement de l'ADC a annoncé les noms des étudiants lauréats du Concours du Mémorial de guerre. Il s'agit de D. W. Davis, de l'université McGill, premier prix, et de H. L. Henry, de l'université de Toronto, deuxième prix.

Les prix de \$200 et de \$100 sont décernés par un jury à deux étudiants de dernière année des facultés dentaires canadiennes qui soumettent les meilleures

dissertations sur un sujet donné. Le sujet de cette année était: "Les glandes endocrines: leur rôle dans le développement dentaire et leur effet sur les dents et les tissus de soutien". Les prix sont dédiés à la mémoire des dentistes canadiens qui ont succombé au cours des deux guerres mondiales.

Le FCED accorde \$39,200 de bourses et établit un nouveau record

Vingt-deux dentistes et une hygiéniste dentaire recevront un total de \$39,200 en bourses de recherches et de formation de maîtres pour l'année universitaire 1969-1970. Cette déclaration a été faite par le Dr J. D. McLean de Halifax, président du Conseil d'administration du Fonds canadien pour l'enseignement dentaire. Les dentistes québécois qui en bénéficient sont:

A. Bowman, de Montréal, qui commence une deuxième année d'études en prosthodontie, à l'université de l'Indiana;

G. Cuzacq-Hall, de Montréal, qui commence sa première année d'études en hygiène publique, à l'université Harvard;

P. Désautels, de Saint-Laurent, Qué., qui commence sa première année d'études en matériaux dentaires, à l'université de l'Indiana;

S. Galperin, de Montréal, qui fera une année de recherche en périodontie, à New York University;

R. Jackson, de Montréal, qui finira ses études en orthodontie à la State University of New York at Buffalo;

S. M. Kennedy, de Westmount, Qué., qui commence une deuxième année d'études en prosthodontie, à l'université de Boston;

P. P. Lamontagne, de Montréal, qui commence une deuxième année d'études en dentisterie opératoire, à l'université du Michigan;

T. P. McCrory, de Westmount, Qué., qui fera une année de recherche en pathologie buccale, à Georgetown University; et

A. Vaillancourt, de Montréal, qui commence sa première année d'études en prosthodontie, à l'Ohio State University.

Le comité consultatif du FCED sur l'attribution des bourses d'études a exa-

miné 30 demandes pour l'année 1969-1970. Depuis 1964, le FCED a octroyé plus de \$100,000 de bourses destinées à la formation d'enseignants et de chercheurs dentaires dont il y a un besoin urgent.

**L'Université de Montréal
plafonnerait à 26,000 le nombre
des étudiants en 1974**

Le Dr J.-P. Lussier, président du Comité du développement académique de l'Université de Montréal, soumettait récemment un rapport aux membres de l'Assemblée universitaire formée du recteur, du vice-recteur, des doyens et des représentants élus de toutes les facultés.

Le rapport recommande que le nombre d'étudiants réguliers inscrits à l'Université de Montréal ne devrait pas dépasser 26,000 d'ici 1974. Ce chiffre ne comprend pas les étudiants inscrits au Service d'éducation permanente.

Le Comité soutient que l'université se doit d'encourager les secteurs que l'Université du Québec à Montréal ne développera pas en priorité, et d'attacher une importance accrue à la recherche afin de développer son enseignement de deuxième et de troisième cycles et de multiplier ses diplômés dans les grades supérieurs.

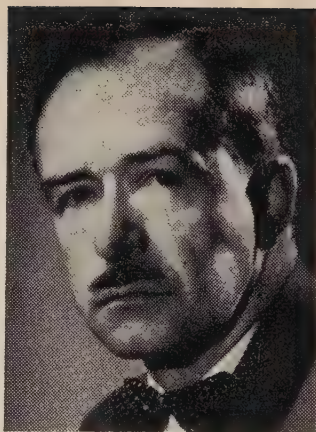
Durant leur travail, les membres du Comité ont gardé à l'esprit l'état des débouchés actuellement prévisibles sur le marché du travail.

L'économie

**"Les dentistes devraient organiser
leurs propres régimes d'assurance"**

Lors d'une allocution prononcée le 19 mai devant le congrès de l'Association dentaire de l'Ontario, M. J. E. Sparks, de Détroit, principal expert en soins médicaux auprès du syndicat des Travailleurs unis de l'Automobile, a encouragé les dentistes à organiser eux-mêmes des régimes d'assurance basés sur les soins de prévention et d'entretien et qui fourniraient une gamme étendue de prestations.

Selon lui, l'état des dents des Canadiens est déplorable. Il a déclaré que le Canada



Le Dr J.-P. Lussier

ne dispose que d'un dentiste pour 3,039 habitants, soit le rapport le plus bas de tous les pays industrialisés—à l'exception de l'Irlande et de la Belgique,—et que ce rapport ne cesse de se détériorer depuis 1954.

Il a également déclaré que les honoraires des dentistes ont augmenté d'environ 43 p.100 depuis 1961, auprès de 28 p.100 pour ceux des médecins et 20 p.100 pour l'indice général des prix à la consommation, et que le revenu net des dentistes après déduction des frais s'est élevé de 45 p.100 entre 1961 et 1967.

"Compte tenu de la grave pénurie de personnel dentaire, de la très inégale répartition provinciale de ce personnel, du prix des soins dentaires qui monte deux fois plus vite que l'ensemble des prix, pendant combien de temps le public consommateur laissera-t-il encore le domaine dentaire entre les mains des dentistes?", a-t-il demandé.

M. Sparks a affirmé que les dentistes n'ont pas su écarter, au moyen de régimes d'assurance publics ou privés, les obstacles économiques qui découragent les soins préventifs et les traitements réguliers. Si l'on excepte la Colombie britannique et l'Alberta, il existe au Canada un manque évident d'initiative et d'engagement dans le domaine de l'assurance organisée par la profession.

"Si l'on ne remédie pas à la situation", a déclaré M. Sparks, "l'assurance dentaire sera "capturée" par les compagnies privées et les régimes Croix-Bleue — Blue Shield cherchant à conquérir de nouveaux domaines".

M. Sparks s'en est vivement pris à la politique de l'Association dentaire de l'Ontario qui stipule que le dentiste ne doit pas être partie dans un contrat d'as-

assurance. Selon lui, cette règle s'oppose directement aux principes qui, aux États-Unis, guident les meilleurs régimes des corporations de soins dentaires organisés par la profession. "Grâce à un lien contractuel avec les dentistes", a-t-il dit, "vos régimes d'assurance dentaire doivent jouer un rôle fondamental dans le contrôle du coût et de la qualité, ainsi que dans le développement d'objectifs professionnels solides, qui seraient fondés sur les besoins du patient".

M. Sparks, qui est un Canadien, a participé à la création du Programme d'assurance-hospitalisation du Canada et du Régime d'assurance-maladie de la Saskatchewan. Il avait été invité à parler devant la 102^e assemblée annuelle de l'ADO à Toronto.

Le bill 30 crée la Régie de l'assurance-maladie

Le gouvernement québécois a déposé le 26 mai, à l'Assemblée nationale, un projet de loi créant une Régie de l'assurance-maladie du Québec. Le bill numéro 30 confirme au nouvel organisme le soin d'élaborer, d'ici le 1^{er} juillet 1970, les mécanismes administratifs requis pour l'instauration d'un régime d'assurance-maladie.

Les négociations entre le gouvernement fédéral et les autorités provinciales se poursuivent actuellement en vue de réconcilier leurs différends.

La Régie sera formée de 11 membres, dont un président et un vice-président, tous nommés par le gouvernement. Le président sera nommé pour 10 ans et les autres membres pour trois ans.

Deux de ces autres membres seront nommés après consultation des organismes les plus représentatifs du monde des affaires, deux après consultation des organismes les plus représentatifs du monde du travail et deux autres, qui devront être des médecins, après consultation des organismes les plus représentatifs du monde médical. Quatre autres membres seront nommés parmi les fonctionnaires du gouvernement.

Les dentistes seront invités à siéger au sein de la Régie afin de faire entendre leurs voix dans l'élaboration de la législa-

tion et du régime administratif de l'assurance-maladie.

Il faut cependant noter que les négociations avec les médecins en vue de les amener à s'intégrer au régime d'assurance-maladie seront menées par le gouvernement et non par la Régie elle-même. M. Roch Boivin, ministre sans portefeuille, sera chargé des négociations.

Seuls les frais médicaux seront inclus au début de l'assurance-maladie mais le gouvernement espère introduire les soins dentaires et optométriques, ainsi que les médicaments d'ici cinq ans.

Libre choix de participation à l'assurance-maladie

M. Jean-Paul Cloutier, ministre de la Santé, de la Famille et du Bien-être social a déclaré que les médecins seront libres de participer ou non au régime d'assurance-maladie de la province de Québec.

Comme dans le cas de l'assistance médicale aux assistés sociaux, le gouvernement ne forcera pas les médecins à s'inscrire au régime. M. Cloutier a d'ailleurs précisé qu'un seul médecin seulement s'est désisté à ce jour du régime d'assistance médicale.

On estime que l'assurance-maladie coûtera \$285,000,000 dont le Québec paiera \$150,000,000. Les contributions des salariés seront déduites à la source jusqu'à un maximum de \$125.

Conférence du Dr J. Fiset à Trois-Rivières

Le président de l'Association dentaire de la province de Québec présentait le 1^{er} mai dernier une conférence au club Richelieu de Trois-Rivières dans laquelle il



Le Dr Jacques Fiset

a proposé que le régime d'assurance-maladie intègre les soins dentaires, mais en procédant par étape. Après avoir reconnu les difficultés financières du gouvernement à l'heure actuelle, le Dr Fiset a demandé d'accorder les soins dentaires aux enfants durant les 10 prochaines années. Le gouvernement pourra ensuite étendre l'assurance aux adultes lorsque le budget gouvernemental le permettra.

Le président de l'ADPQ a également présenté un historique de la profession dentaire et a démontré à l'aide de diapositives comment la dentisterie moderne pouvait corriger les problèmes de la bouche.

Six associations professionnelles soumettent un mémoire

La création d'une loi-cadre d'assistance-maladie aux assistés sociaux, et l'inclusion des médicaments et des soins visuels et dentaires, font partie des recommandations contenues dans un mémoire soumis au ministère de la Santé par six associations professionnelles.

Plus de 8,500 professionnels de la santé étaient représentés par la Fédération des médecins omnipraticiens, les Associations professionnelles des chirurgiens-dentistes, des pharmaciens, des optométristes, des opticiens d'ordonnances ainsi que l'Association des médecins du Service de Santé de la ville de Montréal.

Les quatre étapes préconisées pour l'extension du régime d'assistance médicale sont: les médicaments, les soins de chirurgie buccale (qui sont payés au médecin et non au chirurgien-dentiste), les soins optométriques et les services des opticiens d'ordonnances en 1969; les soins dentaires à compter du 1er janvier 1970.

Les professionnels de la santé estiment que les pouvoirs de la Commission de l'assistance médicale sont trop restreints et ne permettent pas à cet organisme d'apporter des solutions satisfaisantes à toutes les difficultés d'ordre administratif qui surgissent.

"Il devient donc de plus en plus nécessaire de doter de pouvoirs administratifs une commission sur laquelle les professionnels de la santé siègeraient", ont souligné les auteurs du mémoire.

Un amendement rend la publicité plus facile pour les mécaniciens de l'Alberta

Le Bill 78 modifiant la Loi sur les Mécaniciens dentaires de l'Alberta a été accepté le 5 mai par le comité plénier de la législature provinciale. Il contient l'amendement suivant à l'Article 26 (1) de la Loi:

"(1A) Nonobstant le Paragraphe (1), un mécanicien dentaire certifié peut faire connaître son établissement sous une raison sociale approuvée par le président du Bureau [des Mécaniciens dentaires]."

Les tentatives visant à faire inclure dans les raisons sociales les mots "mécanicien dentaire" ou "mécanicien dentaire enregistré" ont été rejetées. Le Dr G. E. Decker, secrétaire de l'Association dentaire de l'Alberta, fait remarquer que la publicité des établissements des mécaniciens est maintenant entre les mains du président du Bureau. Il pourrait approuver des appellations telles que "laboratoire dentaire", "clinique de prothèse dentaire" ou tout autre nom, qui peut laisser entendre qu'il s'agit d'art dentaire. Or, dit le Dr Decker, cette idée est absolument contraire au but de la Loi sur les Mécaniciens.

La Corporation de l'Alberta offre un nouveau régime d'assurance dentaire payé d'avance

La Corporation de services dentaires de l'Alberta vient d'annoncer un nouveau régime d'assurance dentaire payé d'avance qui couvrirait tous les frais jusqu'à \$100 par an. Ce "régime de prestations payées au complet" est plus étendu que le "régime d'indemnisation par co-assurance" qui était offert auparavant. Il comprend tous les genres de traitements dentaires, y compris les soins d'orthodontie, qui sont exclus du régime d'indemnisation.

Les deux régimes sont réservés à des groupes de plus de 25 personnes. Le nouveau régime doit atteindre une participation de 100 p.100 dans le groupe, alors que le régime d'indemnisation n'exige qu'une participation de 75 p.100. Les deux régimes prévoient que l'employeur, l'association ou le syndicat contribuent au paiement des primes.

Le nouveau régime coûte environ \$3.73 par mois pour une personne seule et \$10.53 par mois pour une famille de trois ou plus. Il défraye les dépenses dentaires jusqu'à \$100 par personne et par an avec un maximum de \$300 par famille. Alors que le nouveau régime assure une couverture de 100 p.100, le régime d'indemnisation ne rembourse que 70 p.100 de la plupart des frais dentaires et seulement 50 p.100 pour les dentiers, les couronnes et ponts et la dentisterie cosmétique. Dans les deux cas le patient paie son dentiste avant d'être remboursé par la CSDA.

La profession légale de l'Alberta vient de voter en faveur du régime d'indemnisation. Les employés des magasins Saway et Dominion se sont montrés intéressés au régime de prestations complètes.

La recherche

Besoin de laboratoires pour les diplômés de langue française

L'Université Laval, l'Université de Montréal et l'Université de Sherbrooke ont suggéré au gouvernement fédéral de créer des laboratoires unilingues français afin de donner des débouchés au nombre croissant de ses diplômés en sciences. A l'heure actuelle, seul l'Institut de recherche de la défense à Valcartier offre des postes aux diplômés de langue française.

Santé publique

Incidence élevée de la carie au Saguenay-Lac-Saint-Jean

Des études faites à Alma et Roberval par le Dr Gilles Pelletier, dentiste hygiéniste régional pour le ministère de la Santé ont révélé que près de la totalité de la population du Saguenay-Lac-Saint-Jean souffre de carie dentaire.

En 1967 la région disposait de 47 dentistes seulement pour une population globale de 280,000 habitants. Chicoutimi

n'avait qu'un dentiste par 8,055 habitants.

Le Dr Pelletier et son équipe poursuivent intensément une campagne d'éducation par la presse, par l'enseignement direct dans les écoles et par des journées cliniques où tous les enfants peuvent se faire examiner gratuitement. Il a également préconisé la fluoration des eaux de consommation de toutes les municipalités du Saguenay-Lac-Saint-Jean.

La fluoration

Mémoire sur la fluoration des eaux de Montréal présenté au Conseil de coordination intermunicipal

Le Dr Hubert LaBelle a dirigé une délégation du Comité de la fluoration des eaux de Montréal qui a rencontré le Conseil de coordination intermunicipal. Le Conseil groupe 30 municipalités aux alentours de la ville de Montréal, dont 16 sont desservies par l'aqueduc de Montréal.

Le mémoire soumis par le Comité résume le problème de la carie dentaire et les moyens de prévention à l'aide du fluor. Il explique les aspects techniques et le coût modeste de la fluoration. Il cite que le coût annuel à Toronto (qui fluore son eau depuis 1963) n'est que de 6.58 cents per capita.

Le Comité espère sensibiliser les municipalités aux avantages de la fluoration afin que celles-ci influencent la politique réactionnaire de la ville de Montréal envers ce problème de la santé.

La fluoration à Kénogami

La municipalité de Kénogami a pris livraison de la machine à doser les ingrédients chimiques dans l'eau de consommation.

Le conseil municipal avait offert à ceux qui formulaient des objections contre la fluoration, de préparer une soirée d'information animée par des spécialistes. Mais aucun citoyen sérieux n'a donné suite à cette offre.

études expérimentales de la circulation dans la pulpe dentaire et diagnostic différentiel

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Le diagnostic des lésions pulpaires est basé presque uniquement sur les sensations du patient. L'auteur a analysé les nouvelles techniques de recherches pulpaires qui mèneront bientôt à la fabrication d'instruments pour le diagnostic différentiel des pulpites.

Diagnosis of pulpal disorders depends almost solely on interpretation of the patient's symptoms. Doctor Archambault describes some recent advances in pulpal research which may culminate in the development of new instruments for differential diagnosis of pulpitis.

Les recherches, qui ont longtemps été de caractère histologique, se sont transformées récemment grâce à l'avènement de techniques nouvelles. On peut maintenant observer la pulpe in vivo et étudier ses réactions physiologiques et pathologiques.

De nos jours, le praticien dentaire n'a pas l'instrumentation nécessaire à un diagnostic différentiel précis des pulpites. L'étude des causes d'irritation pulpaire par des méthodes de recherche in vivo sur des animaux, la connaissance approfondie de la circulation pulpaire et les moyens employés pour y parvenir modifieront certes notre technique opératoire.

Il serait souhaitable qu'un jour les praticiens puissent au moyen d'un instrument quelconque, apprécier de façon objective les lésions pulpaires sur leurs patients, l'évolution vers la guérison ou la nécrose, de façon à pouvoir appliquer le traitement requis en temps opportun.

LA CIRCULATION PULPAIRE

La circulation pulpaire est un phénomène unique dans l'organisme humain. Les vaisseaux sanguins, avant de s'engager dans la pulpe et de développer un réseau de capillaires, passent par une ouverture étroite à parois rigides, l'apex. Cet apex conditionne la circulation pulpaire, et de ce fait la santé de la pulpe. Si l'artère se dilate, la veine est comprimée et ceci peut porter à une congestion passive et à une stase. Tout ce qui affecte la circulation à ce niveau peut avoir des répercussions importantes sur la vie de la pulpe.

La pulpe est très vulnérable car la circulation sanguine est terminale à ce niveau. Il est donc important de connaître son comportement naturel, et son comportement vis-à-vis des circonstances variées, capables de l'influencer.

La circulation sanguine pulpaire qui est responsable de la vitalité de la pulpe est affectée par des irritations primaires telles les agents bactériens, physiques, chimiques ou mécaniques et par des influences secondaires telles les maladies systémiques ou les troubles du périodonte. Les irritations pulpaires varient selon la sévérité, la durée et l'irritant; selon la santé de la dent et la résistance de l'individu. Elles sont liées à l'âge du patient, à des facteurs héréditaires, à la diète en vitamines, protéines et minéraux, à la présence de maladies systémiques ou de troubles hormonaux. On ne peut évaluer tous ces facteurs et ces influences de façon précise que par une méthode d'évaluation *in vivo* sur les patients mêmes.

Espérons donc qu'un jour les recherches actuelles nous permettront d'acquérir des instruments d'évaluation indispensables.

L'étude expérimentale de la circulation sanguine dans la pulpe s'avère un problème complexe et difficile à résoudre. Le volume sanguin pulpaire est très petit, ce qui rend ardu le calcul du débit sanguin et des variations possibles du volume sanguin. Les variations infimes du diamètre des vaisseaux sanguins peuvent être catastrophiques. De plus, la pulpe est un tissu très fragile. La pulpe est enfin difficile à rejoindre, puisque les tissus les plus durs du corps humain, l'émail et la dentine, la recouvrent.

Notre travail se limitera exclusivement à l'étude des travaux expérimentaux traitant du pouls, du volume sanguin, de la pression et du flux sanguin dans la pulpe.

REVUE DE LA LITTÉRATURE

1. Pouls sanguin dans la pulpe

Burnette et Hohn¹ ont préparé la dent d'un chien anesthésié de sorte qu'une mince couche de dentine recouvre la pulpe coronaire. La couronne de la dent était placée entre une source lumineuse et une cellule photo-électrique. Cette dernière captait toutes les variations lumineuses que subissait la lumière en traversant la dentine et la pulpe pour les amplifier et les transmettre à un oscillographe. On enregistrait la respiration et l'action cardiaque simultanément. Cette expérience permettait de constater des changements rythmiques pulsatifs de la densité optique de la dent. On notait une relation directe entre la courbe pulsative dentaire et l'électrocardiogramme. L'amplitude en était cependant très faible.

Upthegrove et ses collaborateurs² ont construit un petit instrument qui permet d'attacher facilement et solidement une ampoule d'un côté de la dent et de l'autre une cellule photoconductrice. Un amplificateur permettait d'enregistrer des changements de résistance de la cellule, lesquels étaient produits par les changements de l'intensité de la lumière qui pénétrait par la dent. La dent n'était pas endommagée par cette technique.

L'appareil placé sur une dent vitale enregistrerait des ondes aux pulsations synchrones avec celles de l'électrocardiogramme. Les auteurs ont montré que les ondes correspondaient à la quantité de sang oxygéné qui passait par la pulpe; elles disparaissaient si on comprimait la carotide, et des manipulations variées les modifiaient.

Moist et Yanof³ ont réussi à enregistrer le pouls dans la pulpe au travers de la dentine sans exposer la pulpe. Ils ont scellé dans une cavité, une aiguille hypodermique et attaché à celle-ci un transducteur de pression avec un amplificateur

puissant. La courbe enregistrée correspondait au pouls de l'artère pulsaire. L'enregistrement était possible sur les patients, quoiqu'avec certaines difficultés. Les auteurs préparent des perfectionnements de la technique et des études en pratiques dentaires.

2. Volume sanguin dans la pulpe

Kraintz et Conroy⁴ ont calculé le volume sanguin dans la pulpe. Les résultats nous montraient enfin que la quantité de sang dans la pulpe est infime, soit quelques centièmes de ml, au maximum. Ceci rend difficile la recherche expérimentale à ce niveau, où tant de substances étrangères couramment utilisées par le dentiste sont susceptibles d'affecter le volume sanguin pulpaire.

Des chiens étaient anesthésiés. On leur injectait du sérum albumine radioiodiné intraveineusement par la veine fémorale. Après trente minutes d'attente, lorsque la substance étrangère s'était répandue aux organes en proportion de leur débit sanguin, on procédait à l'extraction et au nettoyage des dents, afin de mesurer leur radioactivité. On prélevait et mesurait la radioactivité d'un millilitre de sang veineux.

Dans une autre expérience, les chercheurs avaient gelé des dents in situ par application directe de nitrogène liquide sur la mâchoire de chiens anesthésiés. On avait sectionné la mâchoire gelée dans la glace sèche, enlevé les dents et mesuré leur radioactivité dans l'état gelé.

On a obtenu le volume sanguin de chaque dent en comparant la radioactivité d'un échantillon d'un millilitre de sang avec celle de la dent. Les résultats furent comparés entre les dents du maxillaire inférieur de trois chiens et aussi entre les dents du côté gauche et du côté droit chez le même chien.

Le volume sanguin des incisives inférieures des chiens variait entre 0.0004 et 0.0055 ml; dans les canines il était de l'ordre de 0.04 ml, dans les molaires de 0.03 ml.

Les différences entre les dents extraites et celles gelées in situ étaient petites. La dent extraite ne perdait pas de sang de façon appréciable. Les dents d'un côté et

de l'autre du maxillaire avaient un volume sanguin comparable.

3. La pression dans la chambre pulpaire

Beveridge et ses collaborateurs⁵ ont préparé un petit trou dans la chambre pulpaire au travers de l'émail et de la dentine d'une canine d'un chien anesthésié. Dans le trou, ils ont vissé une canule et attaché celle-ci à un transducteur de pression par des tubes remplis de liquide. Un cathéter fut implanté dans l'artère thoracique et attaché à un autre transducteur. Un oscillographe enregistrait les données des deux transducteurs.

La pression dans la pulpe montait et ensuite descendait simultanément avec la pression artérielle après une infusion intraveineuse de l-nor-épinéphrine.

Des observations répétées après de longs intervalles montraient des changements de la pression pulpaire indépendants des changements de la pression artérielle.

Des résultats semblables furent publiés aussi par Wynn et collaborateurs.⁶

4. Le flux de sang

Liebman et Cosenza⁷ ont utilisé l'enregistrement de l'impédance électrique pour indiquer les variations de la vélocité du flux dans la pulpe. Dans une cavité où le volume du sang contenu ne pouvait pas fluctuer au cours du cycle cardiaque, la conductibilité électrique du sang en mouvement était augmentée, comparée au sang en repos. L'impédance électrique dépendait de la vélocité et permettait d'étudier le courant sanguin dans la pulpe.

Sur des chiens anesthésiés, les chercheurs avaient préparé quatre cavités du côté buccal de chaque canine; chaque préparation était à une profondeur suffisante pour que le tissu pulpaire soit facilement visible par transillumination. Ils avaient inséré quatre électrodes dans les cavités fixées par un appareil adapté sur la dent, sans faire de contact avec les autres tissus. On avait employé un système tétrapolaire pour assurer une distribution plus uniforme du courant, une résistance minimale du contact et une

quantité négligeable de polarisation. Les variations de l'impédance électrique étaient enregistrées simultanément avec l'électrocardiogramme et à l'occasion aussi avec les mouvements respiratoires. L'enregistrement produisait une courbe avec des ondes dont la fréquence correspondait à l'électrocardiogramme. Les enregistrements provenaient évidemment de la pulpe, car à la suite d'une nécrose pulpaire, les ondes disparaissaient. Un arrêt de la circulation sanguine causait un arrêt du pouls de l'impédance et une augmentation de l'impédance elle-même.

L'impédance mesurée sur un segment de la dent d'un cm était d'environ 300 ohms, les changements d'environ 0.1 p.100. De ceci, les auteurs calculent que le flux de sang dans la pulpe dans la couronne de la canine était 0.06 ml/min.

Les auteurs ont étudié les effets du chaud et du froid sur le flux sanguin. L'irritation thermique, gutta percha chaud ou glace sèche était appliquée sur une dent dont la pulpe avait été exposée à l'incisif. La chaleur durant 16 secondes faisait disparaître le pouls de l'impédance. Quatre secondes après avoir enlevé l'irritant, le pouls de l'impédance réapparaissait pour devenir normal en 14 secondes. Le froid durant 38 secondes faisait disparaître le pouls de l'impédance, mais 65 secondes après avoir supprimé l'irritant, le pouls n'avait pas rejoint la normale. Si on appliquait l'irritation thermique sur une dent dont la pulpe n'était pas exposée, les altérations du flux sanguin auraient été moins graves.

Pohto et Scheinin⁸ ont élaboré une technique pour étudier in situ la circulation dans la pulpe de l'incisive du rat vivant. Sur un animal anesthésié, on exposait la partie intra-alvéolaire de l'incisive et on enlevait les tissus dentaires durs, du côté lingual et labial jusqu'à ce qu'il ne resta sur la pulpe que 20 microns de dentine. Cette couche mince permettait de voir la circulation dans les capillaires. Dans certaines expériences, on enlevait même cette dernière couche de dentine. La dent était constamment irriguée par la solution de Ringer.

Le rat était placé sous un microscope spécial qui permettait l'observation et la microcinématographie, au cours des colorations vitales et des expériences variées.

Les auteurs ont mesuré la vitesse du flux sanguin dans les vaisseaux de la pulpe. Celle-ci était de 0.3 à 1 mm par seconde dans les artérioles, d'environ 0.15 mm par seconde dans les veinules et d'environ 0.08 mm par seconde dans les capillaires.

Les chercheurs pouvaient observer directement les phénomènes pathologiques résultants des irritations: dilatation des vaisseaux, accélération locale de la circulation, hyperémie, stase, thrombose, hémorragies, margination des leucocytes, augmentation de la perméabilité de la paroi vasculaire, oedème.

Une augmentation de la température de la solution irriguante produisait progressivement: hyperémie, oedème, stase, thrombose. Une température de 39°C à 42°C produisait des altérations légères, une température élevée de 46°C pendant 30 secondes pouvait produire un arrêt complet de la circulation. Un refroidissement à 31°C ralentissait la circulation.

Une injection intraveineuse d'une quantité connue d'un isotope radioactif, permettait ensuite de déterminer la quantité de l'isotope contenu dans une unité de sang. Si on déterminait ensuite l'activité de l'isotope dans la pulpe, on pouvait calculer le flux sanguin dans celle-ci. Meyer, Weiner et Grim⁹ ont étudié par cette technique le flux de sang dans la pulpe des canines des chiens.

Le flux était en moyenne 0.98 cm³ de sang pour 1 g de tissu pulpaire par minute.

Lorsque la région apicale fut infiltrée par épinéphrine avant l'expérience, le flux de sang diminuait d'environ 30 p.100.

DISCUSSION

En pratique, le diagnostic des lésions pulpaires est basé presque uniquement sur les sensations du patient. En conséquence, il ne correspond pas toujours à l'examen des coupes microscopiques. Un diagnostic n'est certain que lorsque la lésion est visible, comme par exemple, dans une pulpite ulcéreuse ou dans un polype pulpaire.

Les méthodes classiques d'étude microscopique des pulpes des dents extraites ne peuvent pas montrer les troubles circula-

toires légers comme l'hyperémie et l'oedème. Ceci a créé des controverses dans les cas où le patient indique des douleurs et l'examen microscopique ne montre aucune lésion de la pulpe.

La technique de Pohto et Scheinin permet d'observer directement l'évolution d'une hyperémie et stase vers une inflammation. L'appareil d'Upthegrove et collaborateurs sera probablement utilisable bientôt pour les dents humaines. Ce ne serait ensuite qu'une question de temps de coordonner les enregistrements faits sur les dents humaines avec les observations directes faites sur les animaux.

Les recherches rapportées ci-dessus peuvent contribuer énormément à la solution des problèmes du diagnostic différentiel.

RESUME ET CONCLUSION

Les recherches récentes ont permis de voir, de mesurer et d'enregistrer des

changements délicats de la circulation dans la pulpe dentaire.

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835 est, boul. St-Joseph

La vie, ce n'est pas toujours la rose — Le chanteur français Gilbert Bécaud avait un mal de dents récemment à son arrivée au Cap, en Afrique du Sud. Il demanda de consulter un dentiste universellement connu, le Dr Philip Blaiberg. Ce dernier, ayant cessé d'exercer sa profession bien avant la greffe du cœur qui l'a rendu célèbre, ne put recevoir le chanteur, qui dut s'adresser à un autre praticien.

medical and dental management of patients with von Willebrand's disease

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Von Willebrand's disease is a haemorrhagic diathesis which resembles haemophilia and Christmas disease. The factor VIII and factor IX deficiencies of these two diseases are not a constant feature of von Willebrand's disease, however. Primary suturing alone induced postoperative haemostasis in 18 of 32 extraction episodes experienced by patients afflicted with von Willebrand's disease. Postoperative bleeding was successfully controlled in three other patients by transfusion therapy and the application of acrylic splints. Primary suturing, though inadvisable in cases of haemophilia and Christmas disease, appears desirable in patients with von Willebrand's disease who undergo oral surgery.

La maladie de von Willebrand est une diathèse hémorragique qui ressemble à l'hémophilie et la maladie de Christmas. La carence du facteur VIII et du facteur IX que l'on trouve dans ces deux maladies n'est cependant pas une caractéristique constante de la maladie de von Willebrand. On a obtenu une hémostase post-opératoire dans 18 cas d'extractions sur 32 lorsqu'on a employé uniquement des sutures primaires chez des patients affligés de cette maladie. L'hémorragie post-opératoire a été contrôlée avec succès chez trois autres patients par transfusion sanguine et par l'application d'attelles en résine acrylique. Bien que les sutures primaires sont prosrites dans les cas d'hémophilie et de la maladie de Christmas, elles semblent être avantageuses pour la chirurgie buccale de patients qui souffrent de la maladie de von Willebrand.

This paper records personal experience in the medical and dental management of 51 patients with von Willebrand's disease. The clinical features of this genetically induced haemorrhagic diathesis resemble those of classical haemophilia (factor VIII deficiency) and Christmas disease (factor IX deficiency). A commonly held view that factor deficiencies are invariable in von Willebrand's disease is, however, refuted by the evidence presented in this paper.

In 1918 Glanzmann¹ first described a hereditary bleeding disorder characterized by purpuric haemorrhage from the mucous membranes and skin. The blood platelet levels were normal but blood clot retraction was defective. He termed the condition 'hereditary haemorrhagic thrombasthenia.'

Thirteen years later von Willebrand² reported a similar disorder in 23 members of a family of 58 living in the Aaland Isles, off Finland. The disease was characterized by prolonged spontaneous bleeding from the nose, gums, intestine, urinary and genital tracts and abnormal bruising. Transmission was effected by a Mendelian dominant gene. Other features included a prolonged bleeding time, normal platelet count, a positive Rumpel-Leede phenomenon (minute subcutaneous haemorrhages following the loose application of a rubber bandage to the upper arm), normal whole blood clotting time and normal clot retraction. Von Willebrand called this haemorrhagic diathesis 'pseudohaemophilia' — a term he subsequently recognized as unsuitable. In a later publication³ he postulated the presence of a platelet agglutination defect in these patients and accordingly coined the term 'constitutional thrombopathy.' This label and other synonyms (pseudohaemophilia B, angio-haemophilia, hereditary capillary defect) assigned to bleeding diatheses resembling that described by von Willebrand have caused considerable confusion.

Nilsson et al⁴ who re-examined von Willebrand's patients in 1957 failed to confirm the platelet abnormality but did observe deficient antihaemophilic globulin in some of his subjects. Other authors⁵⁻⁸ have described additional patients with von Willebrand's disease.

CLINICAL MATERIAL

The patients to be described were investigated during the past decade at the Royal Infirmary, Manchester, England. Each year approximately 200 suspected bleeders were referred from surrounding counties as well as from the immediate locality. Fifty-one cases of von Willebrand's disease were identified during this period, an incidence of approximately one in 40 suspected bleeders.

The 51 patients (26 men, 25 women) from 24 families had a history of abnormal bleeding. This was frequently associated with a similar family history. Each subject had a prolonged bleeding time. Patients with thrombocytopenia, hypertension, renal disease, scurvy and dysgamma-globulinaemia were excluded; so were abnormal bleeders whose laboratory haemostatic tests were normal (although Blackburn⁹ included subjects that had abnormal capillary structure). A full clinical examination did not disclose any other significant abnormalities.

MEDICAL DATA

The age of presentation varied considerably, ranging from 16 months to 53 years. Thirty-eight patients (74.5 per cent) reported the existence of other bleeders in the family. Twenty-four family trees were studied. Only 13 showed clear transmission by Mendelian dominance. Two families included affected members who had arisen by new mutation.

Symptoms. — The commonest symptom (62.7 per cent) was excessive bleeding after dental extraction. Excessive bruising was reported by 52.9 per cent of the subjects. Haemarthrosis was notably absent; this contrasts with its high frequency in haemophilia.¹⁰ Epistaxis and excessive post-traumatic haemorrhage were common, affecting 21 (41.1 per cent) and 20 (39.3 per cent) patients respectively. Epistaxis is common in children, but not when they are very young; nor does it normally persist into adult life. Of some significance was the frequency of severe and sometimes incapacitating menorrhagia.

Half of 18 patients who menstruated suffered from this symptom and consequent iron deficiency anaemia. Six additional cases were discovered after family studies were completed.

Four patients had melaena at some stage, and two of these had had a gastrectomy for putative peptic ulcer. Two other patients experienced haematemesis, but no barium studies had been carried out. Two patients suffered from haematuria.

Special Investigations.—These comprised the following assessments: bleeding time (Ivy's technique¹¹), Hess test for weakness of capillary walls, capillary microscopy, whole blood clotting time, prothrombin time, platelet count, platelet morphology, thromboplastin generation test, antihaemophilic globulin assay and serum prothrombin consumption index.

All 51 patients had an abnormally prolonged bleeding time (exceeding 5½ minutes).

Sixteen (32 per cent) of 50 patients had positive Hess test results.

Eleven (28.9 per cent) of 38 patients had excessive capillary tortuosity.

All 51 subjects had a normal whole blood clotting time.

Forty-three of 44 patients had a normal prothrombin time. There was no apparent cause for the single abnormal result. Two patients with associated (Christmas) factor IX deficiency also had a normal prothrombin time.

All 51 platelet counts were normal. Platelet morphology was also normal in all subjects.

Twenty (39.3 per cent) of 51 thromboplastin generation test results were abnormal. Eighteen of the affected subjects (35.3 per cent of all the patients) had antihaemophilic globulin deficiency, and two (3.3 per cent of all the patients) had factor IX deficiency.

Fourteen (48.3 per cent) of 29 patients had one or more abnormal antihaemophilic globulin assay results.

A figure of 10 per cent is considered normal for the serum prothrombin consumption index. Twenty-four (60 per cent) of 40 subjects had results in excess of 10 per cent. In one patient the index exceeded 30 per cent.

DENTAL DATA

Forty-six of the 51 patients gave a comprehensive dental history. Forty-one (89.1 per cent) had lost 306 teeth in the course of 124 surgical episodes. Thirty-two subjects (78 per cent of the 41) experienced excessive haemorrhage. This occurred in 80 (67.7 per cent) of their 118 surgical episodes. The duration of abnormal bleeding varied from eight hours to 21 days, the peak occurring on the first day.

Twenty-one of the 41 patients were admitted to our hospital for their dental extractions. Ten of these patients (47.6 per cent) bled sparingly. Dentists performed postoperative suturing on 32 occasions. This alone prevented or stopped bleeding in 18 (56.2 per cent) episodes. There was, however, no clear correlation between the ineffectiveness of suturing and factor VIII deficiency. Factor deficiency was observed on six occasions when suturing induced haemostasis. On the other hand, a similar deficiency was observed in only three of 11 incidents where suturing failed to stop bleeding. Moreover, one patient, who had 15 extraction episodes followed by suturing and normal haemostasis and four other extraction episodes followed by prolonged haemorrhage, had no deficiency of factor VIII.

Acrylic splints¹² were used in only three patients, all with factor VIII deficiency. The first patient, with a history of severe postextraction haemorrhage, would normally have required blood transfusion. Instead, she was fitted with splints and given daily prophylactic transfusions of 250 ml. fresh plasma. Two teeth were removed, haemorrhage was minimal and her haemoglobin level did not fall. The second patient had a similar history. She was admitted to hospital, fitted with splints and given 568 ml. (1 pint) of fresh blood immediately before the operation. She bled for several hours after eight teeth were extracted but the bleeding ceased when a further 568 ml. of fresh blood were given. The third patient experienced two extraction episodes. On the first occasion two deciduous teeth were removed following the transfusion of 250 ml. fresh plasma. No splints were applied and normal postoperative haemostasis

ensued. Eighteen months later it became necessary to extract eight more deciduous teeth. In view of the number of teeth involved and the presence of a factor VIII deficiency, these extractions were performed in hospital using splints and transfusions. She received 500 ml. of fresh frozen plasma and 568 ml. of packed red cells. The blood was given because her haemoglobin had fallen to 8.2 Gm. (56 per cent) prior to admission as a result of bleeding from a loose tooth. After transfusion the haemoglobin rose to 10.8 Gm. (74 per cent). Despite these measures she bled profusely on the first postoperative day and haemorrhage did not stop completely until the fourth postoperative day.

DISCUSSION

The principal criteria for diagnosis of von Willebrand's syndrome are (1) a history of prolonged bleeding (for more than 12-24 hours) and bruising, (2) an abnormal bleeding time, and (3) a normal platelet count. Recently, the role of adenosine diphosphate (ADP) in the aggregation of platelets in capillary bleeding disorders has also been questioned. Certain new tests such as the ADP aggregation test¹³ have come into prominence as a result, but their interpretation is still a matter of uncertainty.^{14,15}

Factor VIII or factor IX deficiency and a positive family history of a similar affection are helpful diagnostic indicators but not essential to the diagnosis. Affected patients may have a factor deficiency at certain times and not at others. Different affected members of the same family may or may not demonstrate this deficiency. Proper precautions for determining a reliable bleeding time must therefore be observed. If the first result is normal in spite of a suggestive clinical history, the test should be repeated at a later date.

Hess test and microscopy results lack consistency and are therefore diagnostically unreliable.

The commonest symptoms in my patients were postextraction haemorrhage and epistaxis. Excessive bruising was fre-

quently reported but estimates of what constitutes abnormal bruising necessarily vary.

None of my patients died from the disease but two relatives are known to have died from haemorrhage. The majority (70.6 per cent) had relatives who were bleeders. I could not ascertain the precise cause of bleeding in some of these relatives. Consequently, it would be unfair to attribute their bleeding exclusively to von Willebrand's disease.

A fairly consistent pattern of genetic transmission of the bleeding diathesis emerged from the available family trees examined. I confirmed von Willebrand's observation that transmission is effected by a Mendelian dominant gene. Raccuglia and Neel⁸ have suggested that the antihaemophilic globulin deficiency is transmitted as a gene with variable expressivity. This view is supported by several families in the present series. One patient had no factor VIII deficiency whereas his relatives were deficient. The mother of one subject had no deficiency whereas her son was deficient. Likewise, the mother of another patient was deficient and her daughter was not.

Another family yielded an interesting pattern of genetic transmission. The father and one of two sons were deficient in factor VIII; the other son was not deficient. Both sons were bleeders. The daughter, moreover, had a deficiency of factor IX. This could have resulted from transmission of von Willebrand's disease with factor VIII or factor IX deficiency or from the effect of a control gene which regulates the levels of antihemophilic globulin and factor IX. It is a pity that the affected relatives of another patient, the only other subject with associated factor IX deficiency, refused to attend for tests.

No clear correlation appeared between the degree of clinical severity and factor VIII deficiency. All figures were inconclusive under conditions when such correlation might have been most evident, namely bleeding after dental extractions. There were 13 patients with factor deficiencies whose transfusion and admission requirements were unremarkable. However, six others, also with factor deficiencies, had been admitted to hospital

more than twice and had had more than three transfusions. Broadly speaking, those who had the highest number of hospital admissions were those who had multiple transfusions.

CONCLUSIONS

Of practical therapeutic and diagnostic significance is the history of excessive haemorrhage which affected 32 of the patients who had teeth extracted. This feature is highly suggestive of a haemorrhagic diathesis. Its therapeutic significance may be judged from the following conclusions: first, 10 (47.6 per cent) of the 21 patients whose teeth were extracted in hospital did not experience abnormal bleeding. However, 43 per cent of the other 11 patients whose teeth were extracted in dentists' offices likewise did not experience abnormal bleeding. There is, therefore, no need to insist on hospital admission for dental extractions in patients with von Willebrand's disease; the decision depends on local circumstances. Secondly, most patients whose gums were sutured did not bleed abnormally, and factor deficiency appeared to play little or no part in the result. Primary suturing is therefore advisable. This policy is advocated in the full knowledge that suturing in patients with coagulation defects due to classical haemophilia and Christmas disease is highly undesirable because the suture punctures may bleed profusely.

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The author expresses appreciation to H. McIntyre, MD, BDS (Manc.), FDS RCS, of the Manchester Royal Infirmary, who collaborated in this study.

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"... Governmental welfarism, with its ever-increasing army of pensioners and other beneficiaries, is fatally easy to launch and fatally easy to extend, but almost impossible to bring to a halt — and quite impossible politically to reverse, no matter how obvious and catastrophic its consequences become. It leads to runaway inflation, to state bankruptcy, to political disorder and disintegration, and finally to suppressive dictatorship." — *The Freeman* (April 1969).

root canal preparation and instrumentation

J. M. Calvert, DDS, Edmonton, Alta.

The author describes the instruments and outlines the steps in preparing a root canal for the reception of the filling material.

L'auteur décrit l'instrumentation et les stades de la préparation d'un canal radiculaire avant le placement de la matière obturatrice.

Good restorative dentistry depends on adherence to certain basic principles of cavity preparation. The same is true of root canal treatment.¹ Proper instrumentation aids in obtaining a sterile canal and shapes the canal for the reception of the filling material. A well finished canal should meet the following requirements:

1. The walls must be smooth and hard.
2. If possible, the canal should taper uniformly from the lingual opening to its apical limits.
3. All debris, pulp remnants and necrotic material must be completely eliminated.
4. The size and shape of the canal should adequately accommodate the filling material of choice.

INSTRUMENTS

A minimum but adequate instrument list includes endodontic burs (sizes 2, 4 and 6), smooth and barbed broaches, reamers and files.

Burs. — Endodontic burs are longer than standard burs, permitting deeper penetration into the canal orifice (Figure 1).

Broaches. — The smooth broach is seldom required. Sometimes called a pathfinder, it is used for negotiating narrow, difficult canals. The barbed broach is used for one purpose only — to remove pulpal material, paper points, cotton pellets and other debris from the root canal. This instrument can easily become lodged within the canal and for this reason should never be used for canal preparation or exploration (Figure 2).

Reamers and Files. — Though each manufacturer incorporates certain characteristics into his instruments, all reamers and files are basically similar (Figure 3). The Hedstroem files are an exception. These special instruments have sharp raised spirals which enhance their cutting efficiency. Being slightly bulkier than their conventional counterparts, these files are unsuitable for initial use in ultra fine canals.

Most reamers and files are available with 21 mm. ($\frac{7}{8}$ inch), 25 mm. (1 inch)

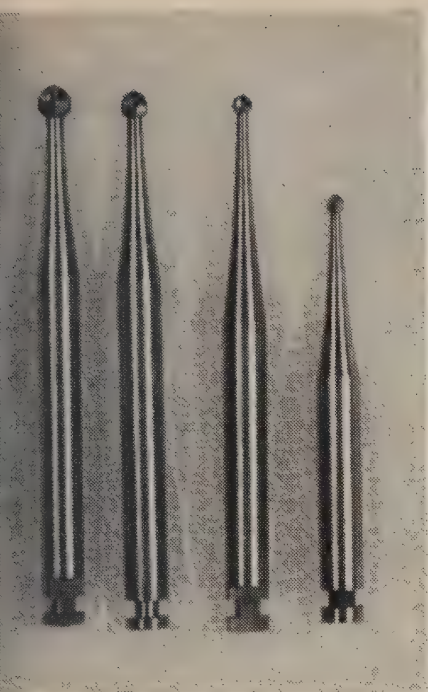


FIGURE 1 Three endodontic burs and a shorter standard bur.

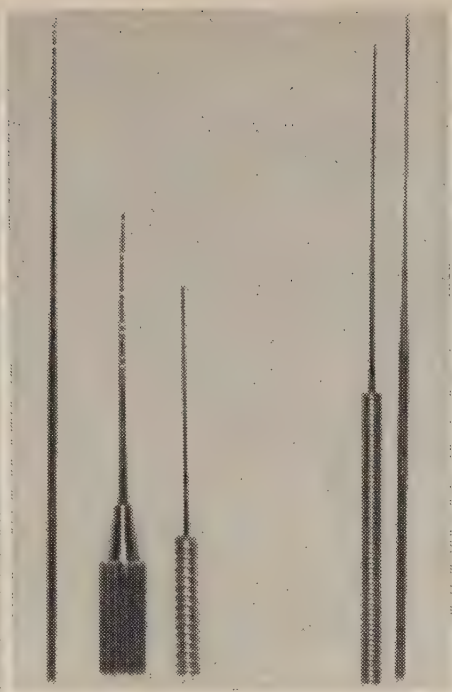


FIGURE 2 Barbed broaches (left) and smooth broaches.

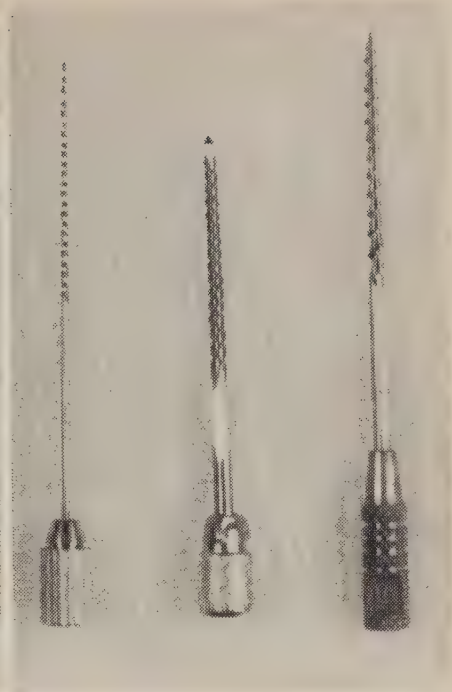


FIGURE 3 Star reamer, Kerr file and Hedstroem file.

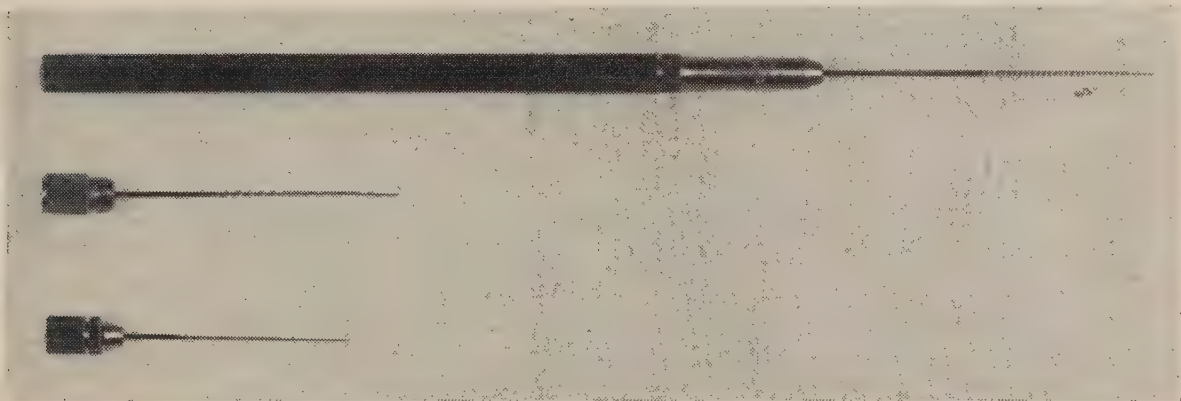


FIGURE 4 Long handled reamers and files are used for anterior teeth; others with short handles are used for posterior teeth. The instruments at the top and in the centre have 25mm. blades; the instrument below has a 21 mm. blade.

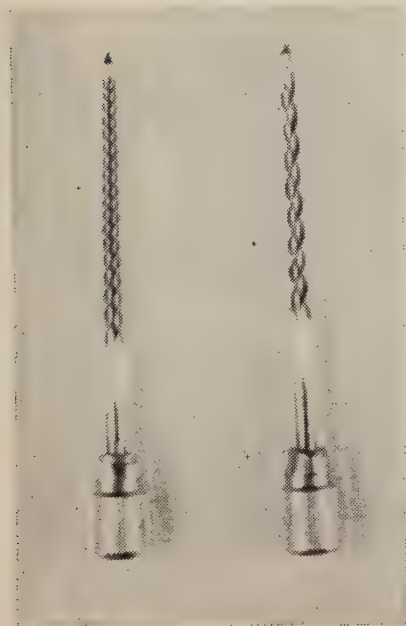


FIGURE 5 The file (left) has more spirals and cutting edges per unit length than the reamer (right).

and 30 mm. (1¼ inch) blades. Some have long handles (style D) for use in anterior teeth; others have short handles (style B) for posterior teeth (Figure 4).

Colour coded instruments are a recent innovation. Each size is assigned a specific colour which appears on the instrument handle for easy identification.

Reamers and files are differentiated by the number of cutting edges per unit

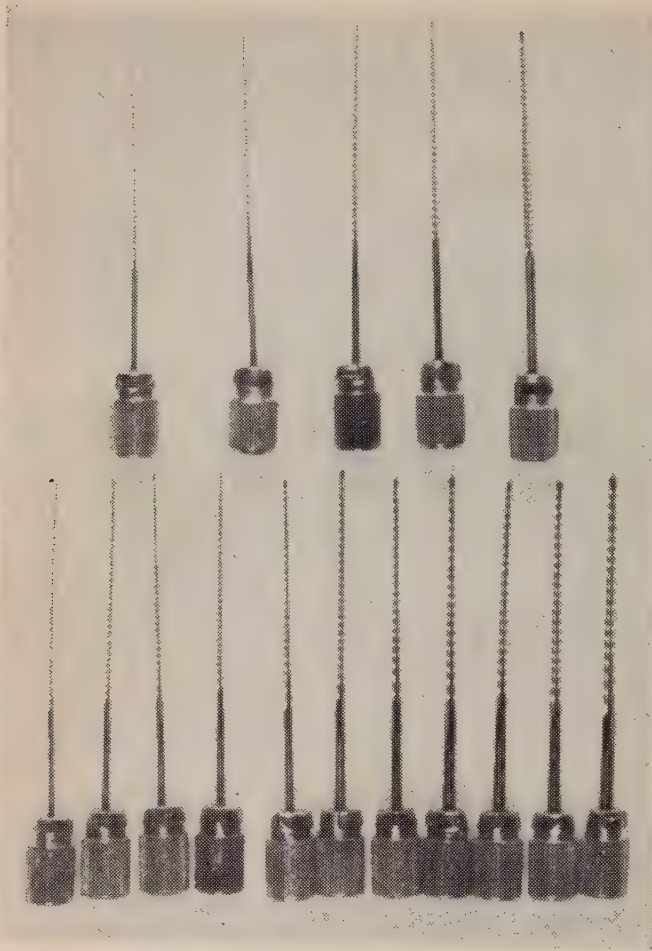


FIGURE 6 Above, conventional reamers and files 1-6. Below, standardized reamers and files 10-60.

length of the instrument. Files have more cutting edges ($1\frac{1}{2}$ - $2\frac{1}{4}$ mm.) than reamers² ($\frac{1}{2}$ -1 mm.) (Figure 5). Both reamers and files are manufactured by

twisting a tapered shaft of carbon or stainless steel. The shaft may be square or triangular in cross section. Certain manufacturers use triangular shafts for their reamers and square shafts for their files while others use square shafts for the smaller files only and triangular shafts for the reamers and larger files.³

Conventional and Standardized Instruments.—Conventional instruments are numbered consecutively from one to 12. Though in use for many years, these instruments have certain shortcomings. There may be a discrepancy between the size of silver points and that of the corresponding instruments. There is no uniform progression in the diameter or taper of these instruments. Some dentists, moreover, desire additional instruments in intermediate half sizes. These deficiencies led to the introduction of 'standardized instruments' which embrace the qualities that are lacking in the conventional instruments. The numbering of standardized instruments starts at 10 and increases by five up to size 60. Thereafter the numbers increase by 10 up to 100, and then by 20 up to the final size 140. Conventional instruments are still widely used. Indeed, they are quite adequate for preparing most canals. However, standardized instruments are preferable for fine canals, as in posterior teeth that require more gradual instrumentation and the fitting of silver cones (Figure 6).

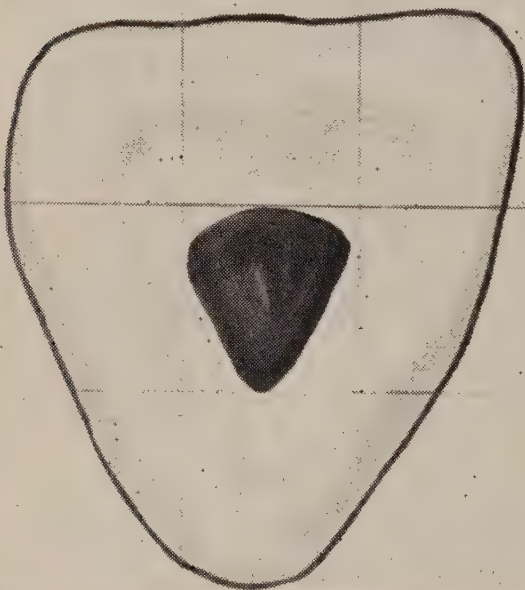


FIGURE 7 View of the opening on the lingual surface of a maxillary central incisor.

ACCESS TO THE CANAL

A proper opening gives good visual access to the canal, simplifies instrumentation and provides adequate space for insertion of the filling material. The content of the pulp chamber cannot be fully removed if the opening is too small. On the other hand, an excessively large opening weakens the tooth unnecessarily. In anterior teeth the opening should comprise approximately the middle third of the crown. Its shape should roughly correspond to that of the pulp chamber (Figure 7). The opening is first outlined with a No. 557 or 558 high-speed fissure bur directed at right angles to the lingual

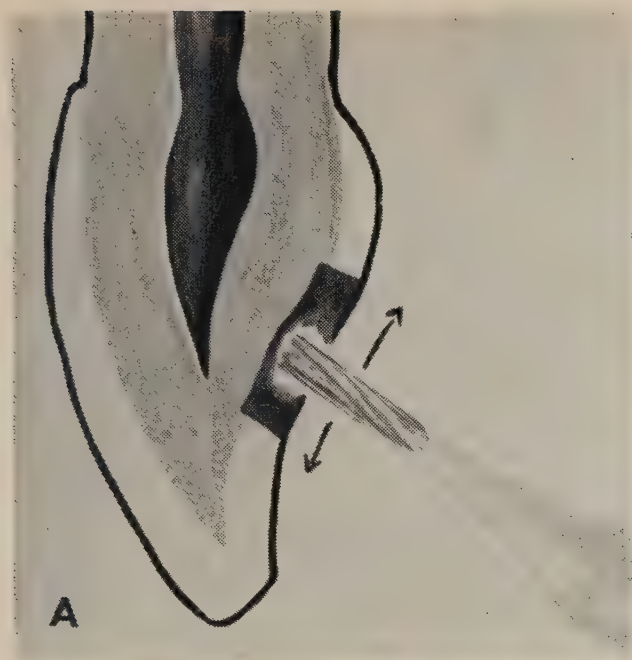


FIGURE 8 A, an outline opening is made with a high-speed fissure bur. B, entry to the pulp chamber is gained with a low-speed round bur. C, overhanging dentine is removed with a bur. D, completed access opening.

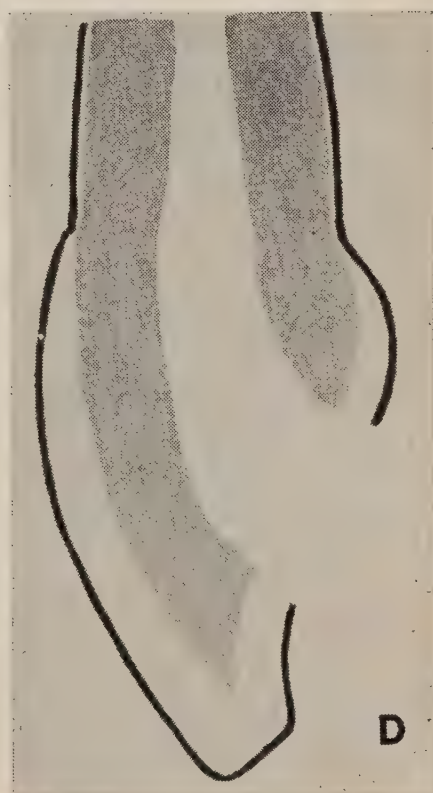
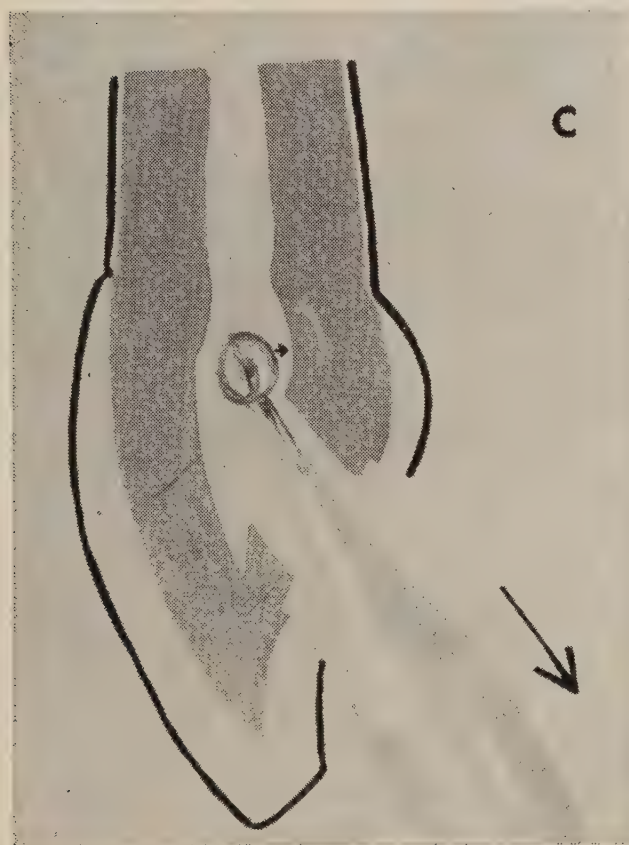




FIGURE 9 Root canal instrument showing rubber marker in place.

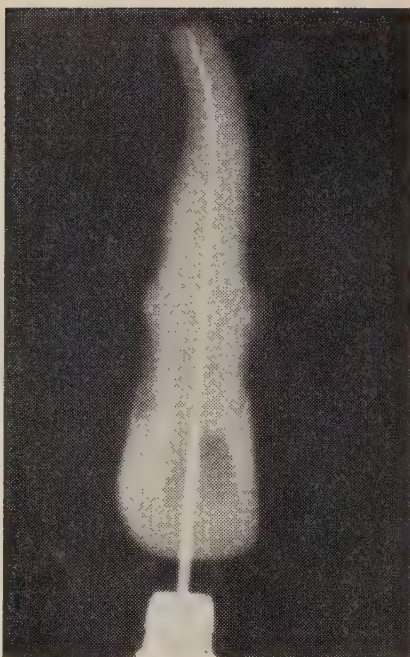


FIGURE 10 Radiograph showing curved apical portion of root canal with instrument in place. The instrument was bent as shown on the right.

surface of the tooth and penetrating well within the dentine. Next, a No. 2 round bur is directed toward the long axis of the tooth so as to penetrate the pulp chamber. Proper angulation is important in order to avoid perforation of the wall of the pulp chamber or the canal itself. The opening is then enlarged with progressively larger burs until the entire floor of the chamber has been removed. Still using burs, all overhanging tissue is removed and the opening is shaped. The pulp horns must be fully cleared even if this necessitates some extension of the opening. The resultant opening should resemble the mouth of a funnel and afford direct and unrestricted access to the canal itself (Figure 8).

PREPARING THE CANAL

The true length of the canal is established from a radiograph of the tooth containing an instrument of predetermined length in the canal. This parameter is transferred to the requisite reamers and files by means of a length control guide. Some companies provide plastic stops for this purpose. Movable metal frames are also available for controlling instrument depth, but the simplest devices are small squares or circles of rub-

ber dam material (Figure 9). Placed over the instrument blade and set at the established tooth length, they ensure that all instrumentation is restricted to the limits of the canal.

There is no 'single way' of using root canal instruments.^{2,4} Some dentists enlarge the canal with reamers, then switch to files to plane and smooth the canal walls. The reamer is inserted in the canal until it meets resistance. It is given a quarter turn, withdrawn, cleaned, replaced and the action repeated. When the canal is sufficiently enlarged, files are used in a vertical motion to plane and smooth the walls. Other dentists use files exclusively, turning and withdrawing until the apical limits of the canal are reached and then planing and smoothing with the same instrument.

The size of the instrument used for initial penetration of the canal is governed by the size of the canal as determined from the initial radiograph. With experience it is possible to choose a starting instrument which approximately fits the canal. The instrument should be small enough to pass freely along the lumen, yet large enough to permit adequate debridement and preparation of the canal. When he has finished with an instrument of a certain size, the dentist must use the next consecutive size in the ensuing instrumentation.

RULES OF ROOT CANAL INSTRUMENTATION

1. Instruments must not be flamed for sterilization.
2. All instrumentation must be accompanied with irrigation.
3. Instruments used in canals with apical curvatures should be curved accordingly.
4. Instruments must be replaced at regular intervals.
5. Instruments must be cleansed before re-inserting into the canal.
6. Instruments should not be forced into canals or twisted with undue pressure.
7. Instruments that have been bent or curved unduly should be discarded.
8. Use instruments of progressive size for enlarging the canal.
9. When encountering resistance in the canal, turn the instrument clockwise for a quarter turn, then counter-clockwise before removing.

The smallest instruments must be used for initial penetration of fine canals such as those in maxillary lateral incisors. But even these instruments may encounter resistance, particularly in the apical third of the canal. If the radiograph discloses curvature of the root apex, the instrument should be bent accordingly (Figure 10). It is then carefully re-inserted into the canal until resistance is met. Slow rotation of the instrument will permit its disengagement and further penetration. The smallest size file is best for this purpose. The next size instrument should not be used until the preceding instrument passes freely and consistently along the entire length of the canal. The direction of the curvature of the instrument is observed on withdrawal; this helps in relocating the established pathway when re-entering the canal. Stubborn canals may resist instrumentation, even with the use of a chelating agent. Such canals should be sealed and the patient should be dismissed. A fresh start at the next appointment often brings the desired result.

Unexpected resistance is sometimes encountered in the apical third of maxillary central incisors which appear to be straight and well defined in radiographs. The root apices of these teeth quite often curve lingually. This problem can also be mastered by bending the instruments as required.

The canal is enlarged until the walls are smooth and hard, free of constrictions or overhanging tissue and adequately shaped to receive the filling. The extent of this enlargement may be judged from the initial radiograph. The average maxillary central incisor, for example, can usually be enlarged to the diameter of a No. 5 or 6 instrument. The last instrument used must, however, pass freely along the entire length of the canal. If undue pressure is required to seat this instrument, the less rigid gutta percha point is sure to bend or buckle before reaching its destination.

SUMMARY

1. Proper mechanical preparation of the root canal simplifies the dentist's task and aids in obtaining a sterile canal ready for the reception of the filling material.

2. A proper opening enhances visual access, facilitates instrumentation and provides adequate space for insertion of the filling material.

3. A thorough knowledge of root canal instruments and their use is necessary if the desired results are to be obtained.

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The optimum fluoride concentration for arctic and sub-arctic drinking water should be set at 1.3 mg./L. This estimate is based on published information about optimum fluoride ingestion, maximum daily fluid intake and the risk of exposure to fluorosis. Ambient temperature data are inappropriate for determining optimum fluoride concentrations in areas where the mean maximum temperature falls below 50°F.

OPTIMUM FLUORIDE CONCENTRATION FOR ARCTIC AND SUB-ARCTIC WATER SUPPLIES

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La concentration optimale de fluorure de l'eau potable des régions arctiques et sous-arctiques devrait être fixée à 1.3 mg/L. Cette évaluation est basée sur les indications publiées sur l'ingestion optimale de fluorure, la consommation quotidienne maximale de liquide et le risque de la fluorose. Les données sur la température ambiante ne conviennent pas à la détermination des concentrations optimales de fluorure dans les régions où la température maximale moyenne tombe en-dessous de 50°F.

Adjustment of the fluoride concentration in drinking water is a widely accepted modern public health practice. But optimum fluoride concentrations have never been adequately determined for arctic and sub-arctic regions. The dental benefits of fluoride depend on (a) the amount ingested daily through water and water-based fluids, (b) the total daily intake of water and water-based fluids and (c) the concentration of fluoride in water. Maximum caries reduction occurs only when children ingest daily and continuously an optimum quantity of fluoride during the tooth-formative period.

This article seeks to establish the optimum fluoride concentration for arctic and sub-arctic water supplies. This estimate is based on published data concerning optimum fluoride ingestion, fluid intake and occurrence of fluoride enamel hypoplasia at specific fluoride concentrations in drinking water.

DRINKING WATER FLUORIDE CONCENTRATION

Various publications¹⁻⁴ have advocated optimum fluoride concentrations in drinking water supplies. The recommendations range from 0.7 to 1.2 mg./L. (approximately=ppm) as fluoride, depending upon geographic location and the annual average of daily maximum air temperatures (mean maximum temperature).

The earliest optimum fluoride concentrations were either based on a formula suggested by Galagan and Vermillion¹ for the mean maximum temperature range of 50.0-90.5°F or derived from US Public Health Service Drinking Water Standards.²

Richards et al³ recently concluded from a five year epidemiological study in California that "the dental caries experience decreases and the percentage of caries-free children increases when the fluoride level is increased at a constant temperature or the ambient temperature is increased with the fluoride level held constant." They recommend a fluoride concentration of 1.2 ± 0.1 mg./L. for areas with mean maximum temperatures of 65°F or less.

Hann⁴ suggests that the fluoride con-

centration in water supplies throughout British Columbia should be set at 1.2 ± 0.1 mg./L.

FLUID INTAKE PATTERNS

Water intake ordinarily varies directly with climatic temperature over a very wide temperature range in relatively warm climates.⁵ Galagan⁶ labelled temperature as the most important element of the climatic environment insofar as individual water intake is concerned. Arnold⁷ and Galagan and Vermillion¹ related individual water consumption to ambient temperature, relative humidity and radiant heat. Galagan and Lamson⁸ thought that body weight and physical activity, two other factors that may influence body water needs, did not vary appreciably in different geographic areas. However, the reports by Galagan et al⁵ and McPhail and Zacherl⁹ disclose significant differences in the mean body weights of Antioch-Brentwood (California) and Edmonton (Alberta) children of similar age. Edmonton children weigh 9.8-14.7 per cent less than their California counterparts. Undoubtedly, their physical activity is also influenced by the city's prolonged winters and the fact that local children spend more time indoors during the severe winter months.

Bonham et al¹⁰ reported that six year old Prince George (British Columbia) children consume up to 29 fluid ounces (presumably US units) or 857.61 ml./child/day. The children's water intake patterns varied widely, ranging from 2.2 to 14.7 oz./day (all drinking water and drinking water-based fluids). Their total fluid intake averaged 0.7 oz./lb./day, which corresponds closely with the Edmonton data of 0.678 oz./lb./day.⁹ Total fluids consumed by the Prince George children include 23.8 per cent as drinking water, 52.7 per cent as whole milk, 7.8 per cent as fruit juices and 15.7 per cent as other fluids. These figures are somewhat lower than the data of Galagan et al.⁵ But Bonham et al¹⁰ reported only 0.167 oz./lb./day (23.8 per cent of 0.7 oz./lb./day) as drinking water, whereas McPhail and Zacherl⁹ recorded 0.375 oz./lb./day

TABLE 1 Water intake of Edmonton (Alberta) children during the period October-March and April-September.

Age	Average body weight lbs.	Water intake oz./lb./day	Water intake ml./child/day
October-March (mean maximum temperature = 25.63°F)			
Under 1	16.70	0.6536	322.792
1-2	28.08	0.4053	336.564
3-4	36.27	0.4395	471.412
5-6	45.48	0.4109	552.650
7-8	55.30	0.3686	602.802
9-10	70.79	0.3239	678.074
Mean			494.049
April-September (mean maximum temperature = 64.46°F)			
Under 1	17.54	0.5929	307.542
1-2	26.13	0.2717	209.953
3-4	37.00	0.3309	362.070
5-6	46.96	0.3051	423.706
7-8	56.70	0.3536	592.911
9-10	74.67	0.4188	924.798
Mean			470.163

Adapted from McPhail and Zacherl.⁹

as drinking water for six year old children.

The individual daily volume of ingested fluids is relatively constant in a given climate and allowing for body size.^{5,11} Bonham et al,¹⁰ however, reported quantitative and qualitative variations of ingested fluids in cool climates, possibly owing to the absence of a constant fluid demand imposed by evaporation for body cooling. On the other hand, McPhail and Zacherl⁹ observed that the effect of climatic temperature on fluid intake may be altered in winter by artificial indoor temperatures and, perhaps, by heavy winter clothing. Regardless of these apparent contradictions, Prince George and Edmonton children consume significantly less drinking water and water-based fluids than do children in California.

Walker et al¹² studied the water intake

of normal children, 0-12 years of age, in different parts of the United States (Michigan, Georgia, Florida and New Mexico). They reported a total fluid consumption of 707 ± 43 to 1290 ± 116 ml./child/day. The total water intake ranged from 120 ± 26 to 493 ± 191 ml./child/day. Neumann¹¹ studied the drinking habits of 312 Long Island children below the age of six. Their average daily intake of tap-water, tapwater-based frozen orange juice and whole milk was 294, 99 and 840 ml./child/day respectively.

The Edmonton water intake data⁹ support the California findings⁵ for the temperature range of 82.3-50.0°F. Below this range the line relating the Edmonton children's water consumption to climatic temperature rises, indicating an increased water intake of up to about 0.2 oz./lb./day. McPhail and Zacherl⁹ recorded average

water intakes of 494.094 ml./child/day for the October-March period (temperature range = 12.1-49.6°F; mean maximum = 25.63°F) and 470.163 ml./child/day for the April-September period (51.0-78.2°F; mean maximum=64.46°F). The winter water intake was about 5.0 per cent greater than the summer intake (Table 1).

The literature information on fluid intake patterns leads to the following conclusions: (a) fluid intake patterns vary quantitatively and qualitatively in different geographic areas of the continent; (b) therefore, average fluid intake values are unreliable unless standard errors are taken into consideration; (c) in order to cover all children during the tooth-formative period, only the maximum recorded fluid intake values should be used in determining fluoride dosage at a given concentration; (d) although Edmonton children's fluid consumption rises when the mean maximum temperature falls below 50°F, their total intake of water plus water-based fluid is still less than that recorded for warmer climatic zones such as California; and (e) during cold winter months, the fluid intake pattern of children is influenced by indoor environmental conditions — therefore, ambient temperature influences during this period are relatively insignificant.

FLUORIDE INGESTION VERSUS
DENTAL HEALTH EFFECTS

The question of “what is the optimum daily ingestion of fluoride through water for maximum dental health benefits?” is not directly answered in the literature.

However, it is possible to estimate optimum fluoride ingestion from epidemiological studies of caries reduction and incidence of enamel fluorosis.

Galagan and Vermillion¹ estimated that California children, whose average body weight was 21.092 Kg. (46.5 lbs.) and who drank water with 1.0 mg. fluoride/day/child, ingest on the average about 0.5 mg./day/child. However, data reported by Galagan et al⁵ show that Antioch and Brentwood (California) children would have consumed 0.028-0.793 and 0.287-0.963 mg./day/child respectively (Table 2) if the drinking water contained 1.0 mg./L. fluoride concentration. The data of McPhail and Zacherl⁹ show that the Edmonton children would consume 0.266-0.770 mg./day/child at the drinking water fluoride concentration of 1.0 mg./L. The mean body weight of the Edmonton children was reported as 19.9 Kg. (43.87 lbs.) and the mean total water intake as 525.43 ml./child/day (17.767 US oz./child/day). Therefore, at the drinking water fluoride concentration of 1.0 mg./L., the mean ingestion of fluoride would be 0.525 mg./day/child as compared with the estimated California average ingestion of about 0.5 mg./day/child.

McClure¹³ estimated that children 1-12 years with body weights in the range of 8-54 Kg. (17.6-119.0 lbs.) ingest from drinking water 0.39-1.17 mg. fluoride/day/child at the drinking water fluoride concentration of 1.0 mg./L.; the total intake of fluoride from drinking water plus food sources was estimated to be 0.42-1.73 mg./day/child. McClure also observed that “an estimated quantity of water-borne fluorine equal to approximately 0.5 to 1.0 mg.

TABLE 2 Estimated daily intake of water and fluoride when water contains 1.0 mg./L. of fluoride.

Age	Body weight Kg. (lbs.)	Water intake range ml./day/child	Fluoride intake range mg./day/child
1-3	8-16 (18-36)	390-560	0.39-0.56
4-6	13-24 (29-53)	520-740	0.52-0.74
7-9	16-35 (36-77)	650-930	0.65-0.93
10-12	25-54 (55-119)	810-1160	0.81-1.16

Adapted from Nikiforuk and Fraser.¹⁵

TABLE 3 Recommended dosage of fluoride (mg./day/child) according to age and natural fluoride content of water supplies.*

Age	Natural fluoride content of water (mg./L.)			
	0-0.25	0.25-0.50	0.50-0.75	>0.75
0-1	0.25	0	0	0
1-4	0.50	0.25	0	0
4-8	0.75	0.50	0.25	0
8-12	1.00	0.75	0.50	0

*Recommended by Nikiforuk and Fraser.¹⁵

of fluorine daily present in the average diet from the first to the eighth year of life appears to be instrumental in reducing dental caries to a great degree.”

Mühlemann,¹⁴ discussing dosage requirements of fluoridated domestic salt, concluded that 1.5 mg. fluoride/day may be the maximum permissible individual

dose that can be safely provided by a dietary vehicle other than water during the tooth-formative period up to age eight. Thereafter the maximum dose may be two or three times higher (3-4.5 mg./day) for older children and many times higher for adults.

Nikiforuk and Fraser¹⁵ estimated the daily intake of water and fluoride, when water contained 1.0 mg./L. fluoride, to range from 0.39 to 1.16 mg./day/child in the 1-12 year age group (Table 2). They also recommended fluoride dosages based on age and natural fluoride content in water supplies (Table 3).

Tóth¹⁶ recommended an optimum fluoride intake of 0.03 mg./Kg. (0.03 mg./2.2046 lbs.) body weight. He advocated this level for fluoridated drinking water and domestic salt for the age group 1-15 years. Applied to the data of McPhail and Zacherl,⁹ Edmonton children aged 1-10 would then receive 0.2273-0.9633 and 0.2387-1.0161 mg. fluoride/day/child during October-March and April-September; on a yearly basis, the dosage would be 0.2334-0.9837 mg./day/child (Table 4).

A recent article in *Nutrition Reviews*¹⁷ which discusses the significance of pre-natal exposure to fluorides recommends a postnatal dosage of 1.0 mg./day/child for dental protection.

FLUORIDE CONCENTRATION AND INGESTION
VERSUS ENAMEL FLUOROSIS

Richards et al³ observed that “moderate and severe enamel fluorosis can be aesthetically objectionable; severe enamel fluorosis may be physiologically undesirable. Persons with fluorosis diagnosed as mild,

TABLE 4 Estimates of fluoride ingestion by body weights and age at a dosage of 0.03 mg./Kg. (0.03 mg./2.2046 lbs.)* body weight for Edmonton (Alberta) Children.†

Age	Body weight lbs.	Fluoride ingestion mg./day/child
October-March		
<1	16.70	0.2273
1-2	28.08	0.3821
3-4	36.27	0.4936
5-6	45.48	0.6189
7-8	55.30	0.7525
9-10	70.79	0.9633
April-September		
<1	17.54	0.2387
1-2	26.13	0.3556
3-4	37.00	0.5034
5-6	46.96	0.6390
7-8	56.70	0.7716
9-10	74.67	1.0161

*Recommended by Tóth.¹⁶
†Body weight data adapted from McPhail and Zacherl.⁹ On a yearly basis, body weights varying from 17.15 to 72.29 lbs., the fluoride ingestion would vary from 0.2334 to 0.9837 mg./day/child at 0.03 mg. F-/2.2046 lbs.

extremely mild and questionable have teeth that show clinical evidence of fluoride. Thus, their teeth are desirable from both a caries-resistant and aesthetic point of view.” At the lowest mean maximum temperature range (65°F or less) these authors³ found no objectionable fluorosis in any community with 1.3 mg./L. fluoride or less; however, I do not know whether they studied any communities with a mean maximum temperature below 50°F. Richards et al³ could not determine the precise fluoride concentration (above 1.3 mg./L.) at which moderate fluorosis begins to appear since their study did not encompass communities with higher fluoride concentrations. Citing Dean’s 1937, 1939 and 1941 studies, they³ suggested that objectionable fluorosis may begin at 1.4-1.6 ppm in the lowest temperature zone.

Though Richards et al³ favoured fluoride levels that produce questionable, extremely mild and mild fluorosis in all children, this additional criterion is undesirable in setting the optimum fluoride concentration because ‘objectionable’ fluorosis manifests when the percentage of children with mild fluorosis approaches about 4-6 per cent. It would be very difficult to determine the precise fluoride concentration at which all children will show desirable degrees of enamel fluorosis. The more important criteria are (a) maximum caries reduction and (b) absence of objectionable fluorosis, rather than desirable degrees of fluorosis.

The US Public Health Service¹⁸ suggests that there is no objectionable fluoro-

sis when the drinking water fluoride concentration does not exceed 1.5 mg./L. Dean,¹⁹ Brown and Poplove²⁰ and the Department of National Health and Welfare²¹ have shown that objectionable fluorosis does not appear when the fluoride concentration is less than 1.7 mg./L. American^{2,22} and Canadian²³⁻²⁵ water quality control agencies stipulate 1.7 mg./L. as the maximum permissible fluoride concentration. Interestingly, the US Public Health Service Drinking Water Standards set the ‘rejection limit’ as “twice the optimum concentration” (which varies from 0.7 to 1.2 mg./L.) in different climatic zones. The World Health Organization’s European²⁶ and International Drinking Water Standards²⁷ suggest an upper limit of 1.5 mg./L. for public water supplies.

Russell²⁸ asserts that mottled enamel can be prevented if children through the age of eight do not ingest more than 1.0 mg. fluoride/day. The Ontario Fluoridation Committee²⁹ concluded that only about 20 per cent of children continuously exposed to a drinking water fluoride concentration of 1.0-1.6 mg./L. show the very mildest form of dental fluorosis. Stratford (Ontario) children²⁰ did not incur objectionable fluorosis even though they ingested drinking water containing naturally-occurring fluoride at 1.6 mg./L. for more than 15 years. They experienced even greater benefits than Brantford children whose water was artificially fluoridated at 1.0 mg./L. (Table 5). Ingersoll (Ontario) children,²¹ who drank naturally fluoridated water containing 1.7 mg./L.,

TABLE 5 Dental data from the Brantford, Stratford and Ingersoll (Ontario) studies.

Index	Age	Brantford (1.0 ppm)	Stratford (1.6 ppm)	Ingersoll (1.7 ppm)
Percentage of children with caries-free permanent teeth		80.85±1.298	83.09±1.702	84.44±2.206
Mean tooth mortality (missing and irreparable permanent teeth) per 100 children	6- 8	1.20±0.420	1.44±0.742	0.74±0.520
	9-11	5.76±1.152	11.28±2.225	6.15±1.839
	12-14	26.31±3.572	21.27±3.046	25.91±5.608
Mean DMF teeth per child	6- 8	0.40±0.031	0.32±0.377	0.26±0.043
	9-11	1.71±0.067	1.30±0.069	0.85±0.079
	12-14	3.78±0.142	2.70±0.121	2.20±0.152

Adapted from Brown et al²⁰ and Canada Dept. of National Health and Welfare.²¹

TABLE 6 Ten year (1951-60) mean daily maximum air temperatures (°F).

Zone	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual average
Yukon	-5.90	8.40	24.30	40.60	55.00	65.80	69.50	52.83	63.40	34.20	16.90	1.30	35.61
Mackenzie	-12.40	-6.50	6.70	28.70	45.90	60.50	67.50	63.50	48.60	30.70	8.70	-5.00	28.15
Keewatin	-17.70	-16.50	-4.50	10.70	28.00	44.20	57.20	54.70	39.70	24.30	3.70	-10.00	17.81
Franklin East	-12.10	-12.60	-8.10	7.40	25.80	40.20	28.00	44.90	35.90	17.40	3.70	-7.90	14.96
Franklin West	-20.50	-23.10	-16.80	1.90	21.10	39.10	47.90	45.30	30.80	12.60	-6.00	-15.30	9.76

TABLE 7 Fluoride concentrations that result by using the method of Galagan and Vermillion and the temperature values presented in Table 6.

Zone	Annual average of daily maximum air temperatures* °F	Fluoride concentration† mg./L.
Yukon	35.61	1.86
Mackenzie	28.15	2.48
Keewatin	17.81	4.72
Franklin East	14.96	6.18
Franklin West	9.76	14.78

*Based on daily maximum air temperatures for the period 1951-1960 inclusive.
†Calculated according to Galagan and Vermillion's¹ formula for US communities.

did not exhibit objectionable fluorosis either. They had more caries-free permanent teeth and less DMF teeth per child, but a slightly higher permanent tooth mortality, than Brantford and Stratford children (Table 5).

If the maximum water intake value reported by McPhail and Zacherl⁹ of 769.599 ml./child/day is applied to the Stratford and Ingersoll children, then the amount of possible fluoride dosage is calculated at 1.23 and 1.31 mg./day/child respectively. If the average water intake value of 478.257 ml./child/day⁹ is similarly applied, then the possible fluoride dosage would be 0.765 and 0.813 mg./day/child respectively for Stratford and Ingersoll children. But Edmonton cannot be compared climatologically with Stratford or Ingersoll; the Ontario communities are relatively warmer and their water consumption may therefore be slightly higher than in Edmonton. Therefore, the application of the Edmonton water intake data to Ontario communities would produce more conservative dosages.

TEMPERATURE IN ARCTIC AND SUB-ARCTIC CANADA

The mean maximum temperatures in arctic and sub-arctic regions fall below the lowest figure in the range of 50.0-90.5°F for which optimal fluoride concentrations have been computed by Galagan and Vermillion¹ and the US Public Health

Service.¹⁸ Table 6 summarizes monthly and annual mean maximum temperatures for the five major arctic and sub-arctic zones during 1951-60. Average summer temperatures are somewhat higher in the Yukon, Mackenzie and Keewatin zones than in the two Franklin zones.

Table 7 presents fluoride concentrations that result from application of Galagan and Vermillion's¹ formula to the temperature data of Table 6. These values exceed the generally accepted maximum permissible limit of 1.7 mg./L. fluoride. Obviously, we cannot determine desirable fluoride concentrations for these areas from temperature data which fall outside the 50.0-90.5°F range or from extrapolations of USPHS Drinking Water Standards.

McPhail and Zacherl¹⁹ observed that artificial indoor temperatures coupled with the wearing of heavy outdoor attire may alter the effect of climatic temperature on fluid intake during Edmonton's winter months. Similar factors operate in arctic and sub-arctic regions where children spend most of their time indoors during cold periods. Ambient winter temperatures may have little influence on the water consumption of these children; their water intake is probably more closely related to indoor temperature, humidity and radiant heat exchange than to the outside environment.

Data on (a) maximum daily intake of drinking water plus water-based fluids and (b) optimum daily fluoride ingestion for dental health are necessary in order to determine the optimum fluoride concentration for arctic and sub-arctic water supplies. In this connection, it seems reasonable to postulate a similarity between the water intake patterns of children in northern Canada and those in Edmonton (which is close to the line that separates sub-arctic and temperate areas of Alberta). Insofar as the optimum daily ingestion of fluoride is concerned, evidence cited in this paper suggests that about 1.0 mg./day/child confers maximum dental health benefits.

DISCUSSION

The criteria used in this paper for determining the optimum fluoride concentration in arctic and sub-arctic water supplies are: (a) maximum water intake (Table 8), (b) the relation of water intake to mean maximum temperature (Table 8) and (c) optimum daily ingestion of fluoride required for maximum dental health benefits. Maximum (rather than average) water intake is used in determining the optimum fluoride concentration.

TABLE 8 Estimated daily ingestion of fluoride, at different concentrations, using the water intake data presented in Table 1.

Period	Water intake ml./child/day	Estimated fluoride ingestion (mg./day/child) at indicated concentrations							
		1.0 mg./L.	1.1 mg./L.	1.2 mg./L.	1.3 mg./L.	1.4 mg./L.	1.5 mg./L.	1.6 mg./L.	1.7 mg./L.
October-March (25.63°F)*	494.049 (average value)	0.494	0.544	0.593	0.642	0.692	0.741	0.791	0.840
April-September (64.46°F)*	470.163 (average value)	0.470	0.517	0.564	0.611	0.658	0.705	0.752	0.799
Yearly mean flu- oride ingestion		0.482	0.531	0.579	0.627	0.675	0.723	0.772	0.820
October-March	678.074 (maximum value)	0.678	0.746	0.814	0.882	0.949	1.017	1.085	1.153
April-September	924.798 (maximum value)	0.925	1.017	1.110	1.202	1.295	1.387	1.480	1.572
Yearly mean flu- oride ingestion		0.802	0.882	0.962	1.042	1.122	1.202	1.283	1.363

*Mean maximum temperature for the period.

TABLE 9 Summary of water and water-based fluid intake by Antioch, Brentwood and Edmonton children.

Age	Average body weight lbs.	Intake of water and water-based fluids		
		oz./lb./day	ml./lb./day	ml./child/day
Antioch, California (mean maximum temperature = 92.4°F)				
Under 1	Boys 18	0.39	11.533	207.594
	Girls 17.6	0.53	15.674	275.862
1-2	Boys 30.6	0.44	13.012	398.167
	Girls 28.0	0.43	12.716	356.048
3-4	Boys 37.6	0.39	11.533	433.641
	Girls 38.0	0.41	12.125	460.750
5-6	Boys 53.9	0.38	11.238	605.728
	Girls 49.5	0.39	11.533	570.884
7-8	Boys 65.5	0.40	11.829	774.800
	Girls 65.1	0.36	10.646	693.055
9-10	Boys 78.9	0.34	10.055	793.340
	Girls 81.2	0.33	9.759	792.431
Mean				530.192
Brentwood, California (mean maximum temperature = 74.3°F)				
Under 1	Boys 15.9	0.81	23.954	380.869
	Girls 16.3	0.80	23.658	385.625
1-2	Boys 29.4	0.33	9.759	286.915
	Girls 27.6	0.44	13.012	359.131
3-4	Boys 39.4	0.38	11.238	442.777
	Girls 37.0	0.33	9.759	361.083
5-6	Boys 49.6	0.53	15.674	777.430
	Girls 50.5	0.31	9.168	462.984
7-8	Boys 66.8	0.39	11.533	770.404
	Girls 61.2	0.40	11.829	723.935
9-10	Boys 77.5	0.42	12.421	962.628
	Girls 72.7	0.38	11.238	817.003
Mean				560.899
Edmonton, Alberta (mean maximum temperature = 43.66°F)				
Under 1	17.15	0.618	18.276	313.433
1-2	27.00	0.333	9.848	265.896
3-4	36.64	0.381	11.267	412.823
5-6	45.97	0.375	11.090	509.807
7-8	55.86	0.362	10.705	597.981
9-10	72.29	0.360	10.646	769.599
Mean				478.257

Adapted from Galagan et al,⁵ and McPhail and Zacherl.⁹

The optimum daily ingestion of fluoride cannot be determined directly from the literature cited in this paper. Nevertheless, by relating the epidemiological evidence^{1,8,11-14,23} to water intake data,^{5,9} we can tentatively conclude that objectionable fluorosis is unlikely when the fluoride ingested is less than 1.0 mg./day/child. Though fluoride concentrations of 1.6-1.7 mg./L. did not cause objectionable fluorosis in Stratford and Ingersoll children,^{20,21} their daily ingestion of fluoride probably exceeded 1.0 mg./child. A few children may exhibit objectionable fluorosis when fluoride ingestion approaches the range of 1.0-1.5 mg./day/child.

In arctic and sub-arctic climates children will have to consume 384.616-769.231 ml./child/day of water and water-based fluids in order to receive a fluoride dosage of 0.5-1.0 mg./day/child at the concentration of 1.3 mg./L. Table 9 shows that the maximum intake of water plus water-based fluids in Edmonton is actually 769.-599 ml./child/day; this would provide a fluoride dosage of 1.0 mg./day/child at the concentration of 1.3 mg./L. (Table 10).

RECOMMENDATIONS

1. On the basis of the three criteria previously mentioned and the data presented in Tables 1, 4, 8, 9 and 10, the optimum fluoride concentration for arctic and sub-arctic water supplies should be set at 1.3 mg./L.

2. The operating range in fluoridation systems should be specified as 1.3 ± 0.2 mg./L. Many of Canada's arctic and sub-arctic communities may not be able to afford the equipment and engineering skill required for an operating accuracy of ± 0.1 mg./L. Nevertheless, the objective should be to provide as accurate a concentration as possible within the available economic and engineering resources of the community. Therefore, the suggested operating range of 0.2 mg./L. should not be construed as licence to deviate from the recommended optimum concentration.

3. Where the water is naturally fluoridated or where fluoride is introduced into raw waters by pollutional discharges, the

TABLE 10 Estimates of daily fluoride ingestion by intake of water and water-based fluids for Antioch and Brentwood (California), and Edmonton (Alberta) children aged 0-10'

Range of intake ml./child/day	Estimates of fluoride ingestion in mg./child/day at indicated concentrations							
	1.0 mg./L.	1.1 mg./L.	1.2 mg./L.	1.3 mg./L.	1.4 mg./L.	1.5 mg./L.	1.6 mg./L.	1.7 mg./L.
Antioch (Calif.) 207.594 to 793.340	0.208- 0.793	0.228- 0.873	0.249- 0.952	0.270- 1.031	0.291- 1.111	0.311- 1.190	0.332- 1.269	0.353- 1.349
Brentwood (Calif.) 286.915 to 962.628	0.287- 0.963	0.316- 1.059	0.344- 1.155	0.373- 1.251	0.402- 1.348	0.430- 1.444	0.459- 1.540	0.488- 1.637
Edmonton (Alberta) 265.896 to 769.599	0.266- 0.770	0.293- 0.847	0.319- 0.924	0.346- 1.000	0.372- 1.077	0.399- 1.154	0.425- 1.231	0.452- 1.308

Adapted from Galagan et al¹⁵ and Arnold.⁷

maximum permissible concentration should not exceed 1.5 mg./L. Water should be defluoridated when the concentration exceeds 1.5 mg./L.

CONCLUSIONS

1. Ambient temperature data are inappropriate for determining optimum fluoride concentrations of water supplies in areas where the mean maximum temperature falls below 50°F. Such concentrations should be based on maximum daily water intake (drinking water plus water-based fluids) by children up to age 10. On that basis, the required daily dosage of fluoride is 1.0 mg./day/child.

2. The optimum fluoride concentrations recommended by the US Public Health Service Drinking Water Standards should not be applied to water supplies in areas with mean maximum temperatures below 50°F.

3. Children living in cold climates, particularly arctic and sub-arctic zones, may receive insufficient fluoride for maximum dental health benefits if their drinking water contains only 1.0 mg./L. of fluoride.

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The opinions and conclusions presented in this paper are those of the author and do not represent the official policy of the Department of National Health and Welfare.

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Complete Denture Prosthodontics

J. J. Sharry, Ed. 2. New York and Toronto, Blakiston Division, McGraw-Hill Company, 1968. 369 p. Illus. \$18.95

Prosthodontics in all its phases has evolved through intensive research and improved techniques to such an extent that much study is required to keep abreast of the many developments. Even complete denture procedure, which is only one area of prosthodontics, has developed studies under so many subheadings that dentists who wish to bring their knowledge up to date must apply more than casual study. It is not enough to teach a student or a graduate dentist a specific technique; it is just as important to know the reasons by discussing the theories behind the method.

Many methods and theories have been advanced for almost every step in complete denture procedure. Therefore Dr. Sharry very wisely has gathered experts to discuss different subjects so that the reader, who thus becomes a student, may reassess portions of his present methods and perhaps alter some of them. Dr. Sharry's book, therefore, is not designed to teach a specific denture procedure but to encourage the reader to examine his present methods in the light of modern knowledge and, perhaps, improve on it. This makes the book unique. It is a very readable book and it may be read studiously or, with the aid of its illustrations, may be skimmed through profitably. It does discuss techniques and gives some instructions to a limited degree. Some areas are given more complete treatment than others. The temporomandibular joint which is so important to all of dentistry is given a most comprehensive treatment. Many of Dr. Sharry's contributors do not confine themselves to orthodox procedures but discuss freely those of dentists who have dared to oppose and alter the usual conventions. This proves quite stimulating.

That old master, Dr. Sicher, has an excellent discussion on 'bone,' dealing with some factors with which the prosthodontist should be familiar. Mandibular movements and intermaxillary relations are thoroughly dis-

cussed in two separate chapters. Many articulating instruments and their use are discussed, from the simplest to the more complex used by the gnathologists. Of extreme interest is the chapter on arrangement and occlusion of teeth. The rationale is excellent and the reader will find much which is helpful in achieving good aesthetics as well as better function. Little of this particular type of discussion is generally found in the orthodox type of textbooks.

Other subjects dealt with are waxing and processing, delivery and aftercare, immediate dentures, single dentures, rebasing and relining techniques, repairs, implant dentures, unusual dentures and common complaints of patients.

This is an informative book which is useful as a source of reference and general information. It has a place in most dentists' libraries.

C. H. Moses

Complete Denture Prosthetics

D. J. Neill and R. I. Nairn. Bristol, John Wright & Sons Ltd., 1968. (Available from The Macmillan Company of Canada Ltd., Toronto) 142 p. Illus. \$7.25

Each step of complete denture prosthesis is described with impressive detail in this 142 page manual. The technique, while sometimes rather tenuous, is adequately supported by the appropriate facts of applied anatomy and physiology. Each of the 189 well chosen black and white illustrations is conveniently related to the topics discussed. The book departs from the usual sequence, however, by including diagnosis and prognosis in the last chapter. I would have expected this to follow the history and examination outlined earlier in the book.

The authors defer the development of bilateral balance in the occlusion until after the try-in stage. This is apparently a laboratory procedure and there is no clinical verification prior to processing and completing the dentures. On this basis, I seriously question the accuracy of their method of transferring condylar guidance to the articulator. As advocated, the forward movement would be too small to provide reliable settings.

This concise little manual is confined to construction of the complete upper and lower denture. No mention is made of rebasing, relining, immediate dentures or single dentures. However, a suitable bibliography directs the reader to further sources of additional information.

Easy to read, the book is admirable for anyone interested in a direct approach to complete denture prosthesis. Its size and format make it a convenient reference source for review of clinical or laboratory phases of the subject. I commend the authors for their contribution to dental literature.

E. Downton

cda retirement savings plan régime d'épargne-retraite adc

Quarterly Report

31-5-69

Rapport trimestriel

	<i>Unit value</i> <i>Valeur unitaire</i>	<i>Unit value</i> <i>Valeur unitaire</i>	<i>Unit value</i> <i>Valeur unitaire</i>	
	<i>31-5-69</i>	<i>31-5-68</i>	<i>31-5-64</i>	
Government Bond Fund	\$13.852	\$13.381	\$12.856	Fonds d'obligations gouvernementales
Corporate Bond Fund	15.056	14.532	13.599	Fonds d'obligations corporatives
Common Stock Fund	27.707	24.106	18.138	Fonds d'actions ordinaires

Section 79B of the Income Tax Act permits tax free contributions of up to 20 per cent of earned income or \$2,500, whichever is less, to a personal retirement savings program.

The Royal Trust Company, trustee of the CDA retirement savings plan offers three separate investment media: a Government Bond Fund, a Corporate Bond Fund and a Common Stock Fund. Contributions may be allocated wholly or partly to fund or funds of the contributor's choice. Transfers between funds are allowed without penalty.

The Government Bond Fund, confined to guaranteed government bonds and other guaranteed fixed income securities, offers excellent income with high security. The Corporate Bond Fund, confined to bonds, debentures, preferred shares and other fixed income securities, offers maximum income. The Common Stock Fund, comprising Canadian and carefully selected American and other foreign stocks, has capital growth as its main objective.

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Le paragraphe 79B de la loi régissant l'impôt sur le revenu autorise des contributions non imposables à un programme de retraite personnelle, représentant jusqu'à 20 pour-cent du revenu, avec un maximum de \$2,500.

La Compagnie Trust Royal, qui gère le régime d'épargne-retraite de l'ADC, offre trois sortes de placements distincts: un fonds d'obligations gouvernementales, un fonds d'obligations corporatives et un fonds d'actions ordinaires. Les contributions peuvent être faites entièrement ou en partie au(x) fonds que choisit le contributeur. Il peut faire des transferts entre les fonds sans payer d'amendes.

Le fonds d'obligations gouvernementales, qui se compose uniquement de bons du trésor et autres sécurités à revenu fixe, offre un très bon revenu avec un risque très faible. Le fonds d'obligations corporatives, qui se compose de bons, d'obligations, d'actions privilégiées et d'autres sécurités à revenu fixe, offre un revenu maximum. Le fonds d'actions ordinaires, qui se compose d'actions ordinaires canadiennes, américaines et étrangères soigneusement choisies, a comme objectif principal l'augmentation du capital.

L'adhésion au programme ou le retrait n'entraîne aucun paiement supplémentaire, ni commission.

Faites fructifier votre programme de retraite. Si vous désirez des renseignements supplémentaires, veuillez remplir et envoyer ce coupon:

CANADIAN DENTAL ASSOCIATION
PENSION AND INSURANCE PLANS

REGIME D'ASSURANCE ET DE RETRAITE DE
L'ASSOCIATION DENTAIRE CANADIENNE

2249 Yonge Street, Toronto 295, Ontario

Please send me information on the Canadian Dental Association Retirement Savings Plan.
Veuillez me faire parvenir des renseignements sur le régime d'épargne-retraite de l'Association dentaire canadienne.

Name/Nom _____

Address/Adresse _____

Group practice

Though dentistry is still predominantly represented by independent practitioners, an ever increasing number of dentists are joining together to perform their professional services. These associations take many forms but all have certain features in common. Do these groups offer benefits to the dentist and to the public? The very fact that the concept is gaining ground answers the question with a convincing affirmation.

The Canadian Dental Association¹ and the Royal Commission on Health Services² have previously commented about the advantages of this type of practice, and the CDA Dental Health Plan for Children³ has generated renewed interest in this method of delivering dental care. The Dental Services Committee has therefore decided to revise the CDA's 1962 brochure on group practice.¹ Individual members will then be able to look to the Association's headquarters for authoritative and up-to-date information on methods of establishing this type of practice.

The benefits of association are many and varied. Group practices are marked by a refined division of labour and a substantial use of auxiliary personnel. The dentist can thus indulge in a preferred phase of clinical practice. The apportioning of tasks among those best able to perform them introduces a subtle yet pervasive element of quality control. Through closer association with his colleagues, the dentist simultaneously assures a greater depth of diagnostic experience for his patients.

Dentists in group practice are more readily exposed to the latest advances in their profession. They are willing to experiment. They are ready to adopt rational procedures of organization. They are prepared to modify the division of labour. They can envisage larger units of practice than solo practitioners, with different proportions of the various sorts of personnel. Through the medium of a management company they can exert tighter control over the practice and over the personnel without compromising the professional responsibility they bear toward their patients. They can also profit from estate planning and tax advantages that are denied the solo practitioner.

Given these benefits, there is every reason to strive and expand the delivery of dental care through group arrangements. By updating the available information and preparing a lucid document on the subject the Dental Services Committee renders a signal contribution in furthering this endeavour.

This editorial was prepared by members of the Assiniboine Dental Group in Winnipeg: E. G. Derrett, Scott Norquay, G. D. Solmundson, M. G. Shapera and W. Walker Shortill.

1. Canadian Dental Association. A study of group practice in dentistry. Toronto, Canadian Dental Association, 1962.
2. Canada. Royal Commission on Health Services. 1964—Vol. 1. Ottawa, Queens Printer, 1964.
3. Canadian Dental Association. Transactions 1968. Report of task force on the CDA dental health plan for children, p. 216.

letters • courrier

The editor reserves the right to edit all communications to fit available space and requires that all letters be signed.

La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Toute communication doit être signée.

Czech Dentists

To the Editor:

I have just finished reading your editorial in the July issue regarding the Czechoslovakian dentists. I wholeheartedly wish to compliment you on its content and design.

I know for certain that dentists as a whole have suffered a severe loss of face over the adverse publicity given the whole affair by the press. The Hamilton press was not exactly kind in its approach and reporting of the facts.

I wish you could officially release this editorial exactly as it is written, as the official dental profession's statement and see to it that all newspapers carry it verbatim with an appropriate title to catch the public eye. No article I have read to date even came close to expressing the Royal College of Dental Surgeons of Ontario's correct and proper actions in a manner understandable by the lay public.

D.A.S. Shearer, DDS,
39 Park St. S., Hamilton, Ont.

Fluoridation and the Health League

To the Editor:

Members of the Canadian Dental Association will remember the active and successful campaign conducted by the Health League of Canada, in cooperation with local dental societies, in the city of Toronto for the fluoridation of water. The campaign has since been carried to all parts of Canada with the result that 6,500,000 of our citizens are now drinking fluoridated water. In spite of this about 16 million Canadians still drink unfluoridated water.

The Health League this year will again concentrate on the fluoridation of communal

water supplies. To achieve this end letters will be sent to every dentist in Canada in the hope that all dentists will cooperate in this campaign. Since *Health* is the official organ of the Health League, it is hoped that this magazine containing useful articles on the subject of fluoridation of water may soon be seen in every dentist's waiting room.

Fluoridation of all communal water supplies is still one of the most important objectives in the field of preventive medicine. All dentists and physicians should cooperate in this effort directed toward the objective of fluoridating water supplies everywhere.

Inquiries may be directed to the Health League of Canada, 111 Avenue Rd., Toronto 180, Ont.

Gordon Bates, MD,
General Director, Health League of Canada,
111 Avenue Rd., Toronto, Ont.

Caribbean Aid Project

To the Editor:

I was interested to read your editorial in the January issue of the CDA Journal. Several years ago I was the only dental health officer in one of the major islands in the Caribbean (80,000 inhabitants). I made several reports about the dental health situation and developed a preventive and educational program in that area. If I can be of any help to the CDA Executive I will be glad to do so.

G. G. Samson,
Grens 28,
Baarle-Nassau, Netherlands.

Tasmanian Practice Available

To the Editor:

My husband has been forced to retire from dental practice at 219 Invermay Road, Launceston, Tasmania, Australia, due to ill health arising from melanoma. Consequently, his practice is available for urgent sale, and I would like to ask your assistance in this direction as there are inquiries from time to time by Canadians wishing to come here.

It is not often that a practice comes on the market at its peak, and I can assure you that my husband's practice was judged by others to be an exceptionally good one. I know that the shortage of dentists is world-wide, but it is particularly acute in Launceston where there are only six private practitioners to serve more than 90,000 people. I might add that none of these practitioners have a post-graduate degree, so that this would be a distinct advantage.

Registration in Tasmania is automatic for a person with a Canadian or American de-

gree. The Australian government maintains an immigration section at the High Commissioner's office in Ottawa. Any questions about conditions in this country could be answered there. However, I shall be very pleased to supply full particulars about the practice to anyone who wishes to be informed.

The practice will be offered for sale, lease or rental to any approved person through my solicitors, Messrs. Harold Bushby & Partners, Brisbane St., Launceston. Financial results of the practice can be checked with my bankers, Commercial Bank of Australia Ltd., St. John St., Launceston.

Mrs. O. F. Deacon,
'Carmel,' Dilston,
Tasmania, Australia.

Hospital Dentistry

To the Editor:

Dr. Hooley's remarks in the May Journal are refreshing and challenging. I am in complete agreement with him, especially his statement on page 232 where he points out that "the documents so far produced are vague and not very helpful for organizing dental staff."

In the last two years there has been growing unease and dissatisfaction among undergraduate and postgraduate dental students over the education they receive. It is seen in undergraduate students who talk about university paternalism and the custodial system of Canadian education, and at the postgraduate level in hospitals. Students question the present value of education in our society and the relationship of society to the educational system. Though there has been little articulation of the issues, symptoms and basic problems in the hospital environment, students are often unable to focus their concern and communicate with each other in order to move toward greater acceptance of their responsibility for action. Provincial licensing boards must therefore seize the initiative. They must become more involved with and responsible for concepts and programs of postgraduate education at the hospital. They should initiate and foster discussion and study of the educational value, structure and process of hospital teaching. Research should be directed to specific areas such as (1) the need for hospital services, (2) the number of patients who require hospital dental care, (3) patients who are not treated because of a lack of hospital facilities, (4) the scope of medical instruction required for dental personnel, and (5) the availability of teaching facilities and the adequacy of staffing and financing.

The licensing boards should conduct hearings among hospital personnel in all parts of the country and invite briefs from all interested parties. They should analyse the problems of hospital dental departments as

seen by students and active staff. They should also recommend steps to be taken in the hospital to develop a community of students and faculty that will overcome these problems. Interim and final reports on the findings and recommendations could be issued to students, faculties and local societies.

A steering committee for such a study should plan the work flow, pattern and final scope of the study. This steering committee should be empowered to receive applications and make appointments. It should also co-ordinate the work of research staff composed of small groups of volunteer workers assigned to specific topics. Such 'task forces' should operate in all parts of Canada and should cooperate with each other through periodic conferences and communication by mail. The task forces should identify and clarify basic issues and provide information on these issues. Funds for this study should be solicited from organized dentistry, the community and government. Preliminary areas of investigation in hospitals should embrace (1) department operation and departmentalization; (2) courses, grading and assignments; (3) intern and student anxiety and frustrations; (4) the hospital as a community; (5) student responsibility and roles; (6) an evaluation of hospital teaching; (7) the role, relationship and pressures exerted by federal, provincial and local governments; (8) the role, composition and functioning of present university postgraduate facilities and their relationship to non-affiliated hospitals; and (9) what do we mean by education?

The results and analysis of such a study should be publicized across the country so as to provide a fuller explanation of the value, structure and processes of hospital dental education and greater interdisciplinary participation in this facet of dental education.

J. C. Cummings, DDS,
Chief, Department of Dentistry,
Ottawa Civic Hospital,
Ottawa 3, Ont.

Dental Books and Journals Sought

To the Editor:

We are very much interested in purchasing from you any books which you or your colleagues may have published. If you have such publications, please send us by air mail any descriptive literature, price and best discount. If you have any knowledge of privately published books by professionals in dentistry and allied fields, we would greatly appreciate any information you can give us regarding the names and addresses of such authors or publishers.

Bartel Book Co., Inc.,
1015 38th St.,
Brooklyn, NY 11219, USA.

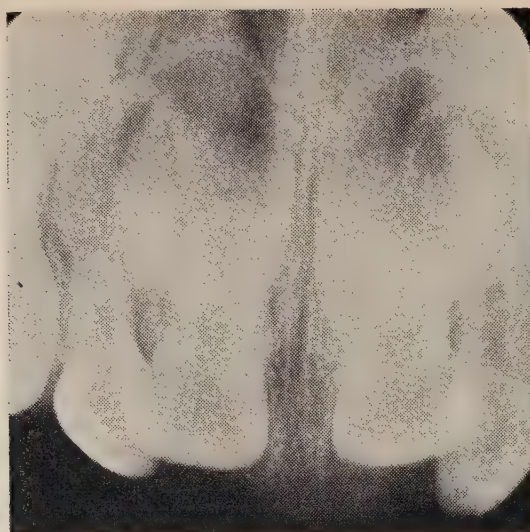


FIGURE 1

Multi-Bladed Burs

To the Editor:

Dr. W. R. Scott asked me to try multi-bladed carbide burs about two years ago. I used them briefly but was sceptical at the time. I felt they were a variation in shape of a carbide bur called an 'enamel shaver' which had been available for some time.

During the past year, while developing an area for limited research in dental materials (particularly composite resins), we have found the Jet IV series as described by Dr. Scott most useful. My experience has been mainly with the 7404 and 7104 series used principally for trimming composite materials. Twelve-bladed carbide burs in these shapes cut with far less vibration and without catching or sinking into materials of varying densities being cut. Cutting procedures can be refined with these burs. In terms of cutting efficiency, they fall between a finishing diamond and a regular six-bladed carbide bur.

To say that multi-bladed burs should be used for all the cutting procedures Dr. Scott has listed is, nevertheless, a matter of debate. But multi-bladed carbide burs of the Jet IV-7000 series are an important and convenient addition to cutting instruments used for finishing metallic restorations, cast preparations done with rapid cutting diamonds, composite materials, and for refining the finished margins of cast preparations.

There is one danger in using multi-bladed burs for finishing amalgam and composite material: good judgement is imperative, otherwise enamel can be removed as well. This hazard does not exist when using regular steel plug finishing burs at any speed. However, the latter will not trim composite materials like Addent 12, Adaptic, and so forth. The new burs are therefore necessary for these materials.

E. R. Ambrose, DDS,
Department of Dentistry,
Montreal General Hospital.



FIGURE 2

Injuries to Deciduous Incisors

To the Editor:

When I submitted my manuscript on "Management of Injuries to Deciduous Incisors" which was published in the January issue of the Journal, you were extremely generous in the matter of illustrations. With this in mind, I submitted only illustrations demonstrating the possible effect that such injury may have on the permanent successor.

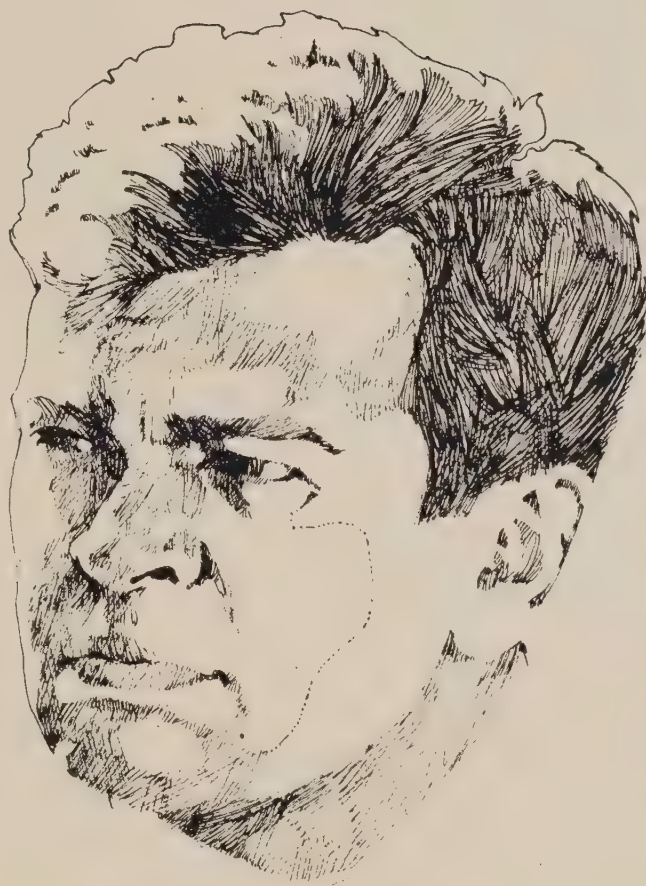
Since that time I have been confronted with two accidents involving a two year old child and a three year old child. The two year old fell from a swing and was taken immediately to the hospital. The physician examined the child quickly and informed the parents that the upper anterior teeth were knocked out. I saw the child five hours later and the radiograph revealed that these teeth had been driven apically out of sight (Figure 1). The three year old had a somewhat similar history, but the father, a well known surgeon, having read my article, decided that a radiograph must be secured. It will be noted that the central incisor was not only driven apically but completely rotated in the soft cancellous bone (Figure 2).

These examples show that more must be done to awaken hospital emergency departments to the fact that medical interns must receive more training with respect to accidents involving the oral cavity.

S. A. MacGregor, DDS,
3050 Yonge St., Toronto, Ont.

MR. MUNRO

serves up a challenge



Federal Health Minister John Munro challenged dentists May 16 to take up the job of providing dental care to Canada's less fortunate people when he addressed the annual convention of the BC Dental Association in Vancouver.

"I look forward to the time when all dental services can be provided to public assistance recipients right across Canada without such anomalies as being able to receive assistance for teeth pulled but not teeth filled," he said.

"Such services are 50 per cent cost-sharable by the federal government under the Canada Assistance Plan." Under the plan, health services including dentistry for welfare recipients are paid by the federal and provincial governments.

Mr. Munro said dentistry is part of the Canadian health system and dentists have a public duty and responsibility, adding:

"This is a crucial point. I will continue to stress this public duty with every professional medical group in Canada whenever the opportunity arises.

"These professions must make themselves more and more relevant to the changing face of Canadian society, especially those parts of society which may be under-favoured by their professions' services."

Mr. Munro said less than one-third of Canadians seek even partial dental care on any regular basis.

"As many as 5.5 million children in our country are receiving minimal or no care at all — the estimate is 35 million cases of dental caries."

In three areas, he said, the absence of care runs to alarming levels — the small rural communities, urban slums and Indian communities — places where economic disadvantage is high.

The minister said his department is responsible for health services to the Indian community but is suffering from a lack of dentists to fill even a minimal number of jobs.

"I urge, even plead, with all or any of you to apply for full-time work — for one year, two years or 10 years — in this service.

"For those who are unable to participate on a total basis, I would ask that you consider part-time contract work, perhaps on your holidays or during a slack season."

Mr. Munro asked dental societies to make their members aware of positions in rural communities and in "blighted sections of our major cities."

Acknowledging that dentists are already overworked, he suggested that "one of the answers may lie in reform of training and use of dental hygienists." The Wells Committee is looking into the utilization of dental auxiliaries and "I look forward to their final report," he said.

Mr. Munro also urged dentists to work with others in the medical field to spread information about the prevention of dental disease.

He said the training of dentists should emphasize a 'team-work' approach.

Interviewed after his speech, Mr. Munro said that he was not hinting at the establishment of 'denticare.'

"As much as I would like to see dental care on the same basis as medicare, there is not a sufficient number of personnel for denticare to work.

"We can't have denticare until more dentists are turned out of dental schools and more dental auxiliaries are taking on the routine dental tasks."

dentistry in the news

The Association

1970 Aptitude Test Brochures Available

The Canadian Dental Association has published new brochures in English and French giving details of the 1970 CDA Dental Aptitude Test Program for applicants to first year dental classes at Canadian dental schools. The brochures give information about predental requirements, the professional course of study, the DAT program, test dates (January 9-10 and April 3-4, 1970), application procedure, test centres, test reports and fees. The program is supervised by the CDA Council on Education.

Dental aptitude tests which are required or recommended by every Canadian dental school help to predict an applicant's probable success in the dental curriculum. Test results are considered with all other pertinent information in determining the applicant's admission to a dental school. Copies of the DAT brochures may be obtained by writing to Dental Aptitude Test Program, Canadian Dental Association, 234 St. George St., Toronto 180, Ont.

Canada and the Provinces

Dr. McIntosh at Medical and Nursing Meetings

The Canadian Dental Association was officially represented by Secretary W. G. McIntosh at the annual meeting of the Canadian Medical Association in Toronto,

June 7-13, and the 14th Quadrennial Congress of the International Council of Nurses in Montreal, June 22. The congress was officially opened by Governor-General Roland Michener. Over 12,000 nurses from 58 countries, many in national costumes, gathered in Concordia Hall, Place Bonaventure, for the colourful opening ceremony.

Winners Get \$1,850 in Prosthetic Competition

Six dental technicians have won a total of \$1,850 in Canada's first coast-to-coast dental prosthetic competition. The competition, which was sponsored by Amalgamated Dental Co. (Canada) Ltd., was open to two classes of technicians: class 1 which included technicians over 21 years of age, and class 2 which included technicians and student technicians 21 years old or younger.

Class 1 winners are: Rudy Wimmer, Toronto, first prize \$500; E. W. Ihrig, Grande Prairie, Alberta, second prize \$350; and Max Elminowski, Weston, Ontario, third prize \$250.

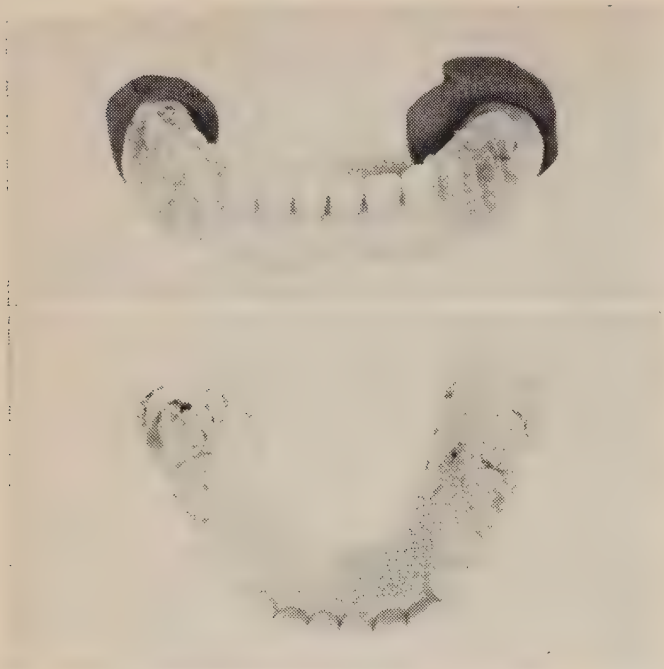
Class 2 winners are: Donald Mooney, Saskatoon, first prize \$350; L. A. Taylor, Toronto, second prize \$250; and Roland Edwards, Toronto, third prize \$150.

The panel of judges consisted of S. P. Sweet, member of the examining board for the Governing Board of Registered Dental Technicians of Ontario 1956-68; Normal Boivin, president of the Professional Laboratory Owners Association; and Fred Smith, past member of the examining committee for the Governing Board of Registered Dental Technicians of Ontario.

International Items

US Board to Examine Foreign Graduates

The US National Board of Dental Examiners, which roughly corresponds to the National Dental Examining Board of Canada, has agreed to examine foreign



The Royal Canadian Mounted Police is anxious to identify the owner of the lower denture pictured above. The denture was recently recovered from the Yukon River near Whitehorse, Yukon. Any reader who recognizes the denture is asked to inform the nearest RCMP detachment accordingly.

dental graduates who are eligible for licensure in California. This action came in response to legislation being supported by the two state dental societies in California to permit evaluation of foreign dental graduates with a view of having the state board issue California licences to those who meet the same performance standards required of graduates of American and Canadian schools.

Foreign dental graduates examined for the California board will receive a record of their scores on a form that cannot be confused with the regular national board report. The national board certificate is being reserved for those candidates who graduate from an accredited school and successfully complete all national board examinations.

Facial Injuries Affect 180,000 Americans

More than 180,000 Americans defaced themselves and each other over the last year in political, social and personal confrontations in the streets and in other types of violence.

A new survey by the American Society of Oral Surgeons indicates that most patients requiring help from oral surgeons

in large general hospitals have injuries rather than disease.

The survey further disclosed that the most frequent causes of facial injury are automobile accidents. The frequency of these injuries is declining because of seat belts and other safety features. On the other hand, many oral surgeons report an increase in these injuries which they attribute to more cars, more drivers, faster cars and more crowded highways.

Along with the finding that automobile accidents are the most frequent cause of all injuries, fights and riots were second in frequency, with falls, third; household accidents, fourth; athletic accidents, fifth; and industrial accidents, sixth.

Women Dentists to Meet in New York

Canadian women dentists who plan to visit the American Dental Association-Fédération Dentaire Internationale joint session in New York City have been invited to attend the 48th annual meeting of the Association of American Women Dentists October 12-13 at the Commodore Hotel.

For further information, contact Jean E. Campbell, Secretary-Treasurer, 532

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on June 30:

Government Bond Fund \$13.839;
Corporate Bond Fund \$14.921;
Common Stock Fund \$24.896.

Total assets (market value) of the plan were \$9,354,119.22.

The following common stock portfolio sales occurred during the preceding month: 2,000 shares Kaiser Steel Corporation.

For further information please write to The Administrator of CDA-sponsored Pension and Insurance Plans, Professional and Industrial Pensions Ltd., 2249 Yonge St., Toronto 295, Ont.

West Chapman Ave., Placentia, California 92670, USA.

Dentists' Supply Co. Changes Name

Shareholders have authorized a change of name for the Dentists' Supply Co. of New York and an increase in the number of the company's authorized common shares. The new name is Dentsply International Inc. Its trade name, "Dentsply," has become well established in recent years. As a result of the acquisition of several other companies, Dentsply is now engaged in fields outside the dental industry. The official name change, says the company's management, will better portray the nature and scope of their present and future operations.

Dental Disaster Squad Formed in Connecticut

The Connecticut Dental Association and the state police have formed the first dental disaster squad in the United

States. The squad, composed of volunteer dentists, will perform dental identification of victims in mass disasters such as fires, floods and plane crashes.

ADA Calls Smoking a Serious Public Health Menace

"Smoking constitutes as clear and serious a public health menace as any this nation now suffers," the American Dental Association said in a recent statement submitted to a US House of Representatives committee. The association's testimony shows that:

Cigarette smokers have a risk of death from oral cancer of all types four times that of the non-smoker;

Pipe and cigar smokers have a risk of death from oral cancer of all types that is three times the rate of the non-smoker; and

Cigarette smokers have a five and one-half times greater risk of death from cancer of the tongue than do non-cigarette smokers.

The American Dental Association reiterated its support for the following four recommendations:

1. A warning statement that cigarette smoking is dangerous to health and may cause death from cancer and other diseases;
2. The warning statement to appear on all cigarette advertisements as well as on the package;
3. A statement indicating the tar and nicotine content of each cigarette to appear on the package and in all cigarette advertising; and
4. A complete ban on all cigarette advertising by television and radio.

Seventh Iranian Congress Sept. 16-20

The seventh annual congress of the Iranian Dental Association will be held in Tehran September 16-20. Persons wishing to participate in the congress may contact M. A. Eftekhari, secretary general of the Iranian Dental Association, 82 Hafez Ave., Tehran, Iran.

Dental Organizations

Dr. Copithorne Heads New Organization in BC

British Columbia's new dental organization has a new president in the person of G. F. Copithorne of North Vancouver. Named as vice-presidents were L. W. Beamish, New Westminster, and M. J. T. Dohan, Victoria. R. A. Mitchell, West Vancouver, is treasurer and K. L. Croft, Vancouver, is managing director.



G. F. Copithorne

A provincial act authorizing fusion of the College of Dental Surgeons of British Columbia and the BC Dental Association into a single organization became effective June 1. The new organization will be known as the College of Dental Surgeons of BC.

Dental Education

Ottawa Grants \$35 Million for McMaster Health Sciences Centre

Ottawa has announced contributions totalling \$34,917,600 from the federal Health Resources Fund for the new Health Sciences Centre of McMaster University in Hamilton. Included in this amount is a grant of \$33,750,000 for actual construction of the centre —the largest single grant approved to date since the establishment of the \$500 million Health Resources Fund in 1966.

The initial stage of the complex, scheduled to be completed by 1971, consists of a single building housing a College of Health Sciences and a 420 bed university teaching hospital. Plans for a later stage

of development, after 1975, include provision for the possible addition of a dental school.

Dental Hygiene Program Planned at UWO

By September 1970, the Faculty of Dentistry of the University of Western Ontario may enrol its first class for a four year baccalaureate degree program in dental hygiene, according to B. P. Martinello, chairman of the university's Department of Social Dentistry. On completion of the course, graduates will be qualified to accept senior public health administrative positions or teaching positions in existing, expanded or new programs of dental hygiene education.

Each class will be open to men or women and will be limited to 20 students. The proposed program will consist of four academic years of study beyond the Ontario Grade 13 level. A bachelor of science (dental hygiene) degree will be awarded on successful completion of the course.

The proposal has been forwarded to the university's Senate for approval.

B. K. Arora Joins Faculty at Saskatchewan Dental School

B. K. Arora, Toronto, has been appointed the first head of the Department of Oral Surgery, College of Dentistry, University of Saskatchewan, Saskatoon.

Dr. Arora taught oral surgery at the University of Toronto since 1963. He was a staff member of the Toronto Western Hospital and a consultant in oral surgery in the Hospital for Sick Children, Toronto.

Dr. Arora studied dentistry at Lucknow University, India, graduating in 1956 with honours. In 1957 he accepted a rotating internship at the Guggenheim Institute, New York, and then went to the University of Illinois to study oral surgery. In 1961 he was appointed assistant professor of oral surgery at Northwestern University's dental school, Chicago, and in 1963 became assistant professor of oral surgery at the University of Toronto.

Regional Conventions

Northern Ontario Meeting Set for Sept. 5-7

More than 100 dentists are expected in North Bay, Ont., when the Northern Ontario Dental Association holds its 29th annual convention at the Pinewood Park Motel, September 5-7.

A golf tournament, slated for Friday afternoon September 5, will be followed by a steak barbecue.

Two University of Western Ontario professors will speak on Saturday. D. G. Gardner will discuss oral pathology in dental practice and R. E. Jordan will outline the latest concepts in silver amalgam restorations.

For further information, contact K. O'Grady, Secretary, Northern Ontario Dental Association, 149 Main St. E., North Bay, Ont.

Economics

Czech Dentists to Get Help for Longer Dental Exams

Ontario's Royal College of Dental Surgeons is trying to establish some form of practical training for the 16 dentists who came to the province after fleeing from Czechoslovakia last summer. That was the cautious message given 12 of the dentists at a meeting with college officials June 4.

The 16, who failed a three day licensing examination last May, are expected to try again in November.

Future examinations for foreign-trained dentists are expected to be more comprehensive and may be lengthened to three weeks to give the college a better opportunity to assess more closely the skills of dentists trained abroad.

Peterborough Welfare Recipients to Get Dental Care

A program of dental care for welfare recipients has been approved by civic au-

thorities in Peterborough, Ontario. The plan is modelled after a similar program in Metropolitan Toronto. The beneficiaries are:

Unemployable adults and their dependant children who will be covered for extractions, fillings and dentures required for serious health reasons;

Employable adults and their dependant children requiring emergency extractions and fillings; and

Limited income pensioners requiring dentures for serious health reasons.

The city will pay up to 90 per cent of the Ontario Dental Association's fee schedule for treatment performed under the plan.

Ontario Enters Medicare

Ontario will join the federal government's shared-cost medical care insurance program on October 1, the seventh province to do so.

Medicare Ontario-style will work this way:

—The provincial government, through the Ontario Medical Services Insurance Plan (OMSIP), will make a standard contract of health insurance benefits available to every person in the province, regardless of age, physical or financial condition.

—The plan will be available either through OMSIP or through private insurance carriers on a non-profit basis.

—The government scheme, to be sold on a premium basis like the present OMSIP plan, will be the only basic health care plan available, although private insurers may offer additional benefits if they desire. Under the government program health insurance premiums will be no higher than the present OMSIP costs.

Ontario's Premier Robarts said commercial carriers of health insurance plans have agreed to set up a non-profit corporation to collect and administer revenues collected through sales of the government health plan. Under this type of administrative framework, all carriers in Ontario may continue to sell medical care insur-

ance and labour and management will be able to continue to negotiate the degree of sharing of costs as part of their collective bargaining agreements, he said.

The bill introduced June 17 provides that all firms with 15 or more employees must be insured as a group. This means that after October 1 almost all Ontario workers will have an identical basic medical plan, although additional benefits and proportions of premium payments made by employers and employees will vary from group to group.

Under the legislation, an expanded Health Service Insurance Council will advise on medicare premium rates, the percentage of physicians' fees to be paid, and the resolution of complaints about the scheme.

The act calls on the Ontario Medical Association to consult the council over fee schedule increases. The OMA now informs the health minister after deciding on a fee schedule. This provision is not an attempt by the government to control the amount physicians charge for their services, Mr. Robarts explained. But, he said, if the government is to subsidize health care costs, it must negotiate what percentage of fees it is going to pay.

Delta Dental Plans Assn. New Name for US Prepayment Programs

Delta Dental Plans Association is the new corporate name of the US National Association of Dental Service Plans. This action was taken at the June 7 annual membership meeting in Chicago.

The name change of NADSP, which was established in 1965, aligns the organization with the new Delta symbol announced in the May Journal. NADSP adopted the Delta Dental Plan name and symbol for use by dental service plans meeting the membership standards of the national association.

Some member plans of DDPA have begun to use the symbol and the phrase "A Delta Dental Plan" in conjunction with their present corporate names. Others are changing their corporate names to "Delta Dental Plan of (State)."

Physicians' Assistants Will Increase Medical Care

New methods of delivering medical care, including the use of 'physicians' assistants,' must be developed to help provide health services to areas of New York State which have too few practising physicians, H. S. Ingraham, state health commissioner and chairman of the New York State Health Resources Commission, said recently.

The commission, which met recently with deans of 12 medical schools in the state to consider a report of the distribution of physicians, will give immediate attention to recommendations for bringing more health services to medically deprived areas.

Dr. Ingraham said properly schooled and trained assistants can help physicians provide medical care and health services to many more persons. Such assistants would provide services to patients only under the direction of the physician for whom they work.

Fluoridation

Dr. Dunn Urges All-Ontario Fluoridation

For nearly two hours the Ontario Legislature's Standing Committee on Health mulled over the problems of meeting the province's dental care requirements. Then they were told how these requirements could be cut in half.

Introduce fluoridation from the provincial level, suggested W. J. Dunn, dean of the University of Western Ontario's Faculty of Dentistry, and with one stroke, "you could reduce dental problems in the future population ... by half."

Dr. Dunn had some other suggestions for the committee. He called for a third dental faculty in the province, a public health program to educate the public to advanced dental preventive care and treatment, more mobile government-supported dental clinics to serve isolated areas, and stepped-up bursary support to attract young graduates to smaller centres.

Fluoridated Water Does Not Influence Dental Practice

Fluoridated water has apparently had little effect on dental practice, according to research sponsored by the University of Illinois College of Dentistry, Chicago.

Preliminary results indicate there is little difference between dental practice in communities with fluoridated water and communities with a fluoride deficiency. The three and a half year research project compared dental practices in eight sets of communities in Illinois, Ohio, Indiana, Colorado and Texas.

The investigators expected to find variations in dental treatment, patient loads, and dentists' income and practices in communities with and without fluoridated water. Instead, they found an apparently similar number of patients who seek dental treatment in both types of communities. And they discovered that fluoridated water has little effect on the age when children first visit a dentist's office, also contrary to original expectations.

One possible explanation for fluoridation's apparent minimal impact on dental practice is that population growth has outstripped the availability of dentists to attend to the dental needs of the public, even in fluoridated communities.

Research

Dental Materials Research Meeting Set Oct. 6-8

The US National Bureau of Standards and the American Dental Association will sponsor an international symposium on dental materials research October 6-8. The symposium marks the 50th anniversary of initiation of dental research at the National Bureau of Standards. It will bring together outstanding authorities from throughout the world for a comprehensive state-of-the-art report and a look at present trends and future expectations in the field of dental materials.

Sessions will be held at the new Gaithersburg, Maryland, facilities of the National Bureau of Standards. Accommodation for participants will be available at the Sheraton-Park Hotel, Washington,

and bus transportation will be provided between the hotel and the NBS site in Gaithersburg. For further information, write to George Dickson, Room A145, Polymers Building, National Bureau of Standards, Washington, DC 20234, USA.

Awards and Honours

Two Saskatoon dentists were recently honoured by the College of Dental Surgeons of Saskatchewan. Forty year service plaques were presented to **R. V. Little** and **C. L. Skinner**.

Deaths

- Balmer, Weir Campbell. 67. Vancouver. Royal College of Dental Surgeons of Ontario, 1925. 19-5-69. Survived by Ella (wife); Dr. Jack (son); Dr. Ian (brother); Mrs. Mary Parker and Mrs. Catherine Smart (sisters); and one grandson.
- Davies, David Russell. 69. Oshawa, Ont. Royal College of Dental Surgeons of Ontario, 1923. 6-6-69. Survived by Lottie Madelaine (wife); Dr. John (son); Mrs. Bruce Searle (daughter); Susan, Judy and Jane Davies and Karen and Stephen Searle (grandchildren); Thomas (brother); and Mrs. S. Carson (sister). Associate member CDA.
- Ingram, James Wesley. 75. Toronto. Royal College of Dental Surgeons of Ontario, 1918. 4-1-69. Survived by two sons and one daughter.
- McRae, Kenneth Eddie. 69. West Vancouver. North Pacific College, University of Oregon, 1924. 25-5-69. Survived by Alma (wife); one son; one daughter; and five grandchildren.
- Poupart, Roméo. 61. Montréal. Université de Montréal, 1935. Survécut par Madeleine (épouse); André, Pierre, Yves et Robert (fils); et Mme André Beausoleil (fille).
- Robidoux, Peter Emery. 77. Shediac, NB. McGill University, 1923. Associate member CDA.
- Wade, Arthur Kingdon. 72. Perth, NB. Baltimore College of Dental Surgery, University of Maryland, 1918. Survived by Harry A. (son) and Mrs. Robert Coates (daughter).

les actualités dentaires

Le Canada

Les dentistes tchécoslovaques échouent aux examens de l'Ontario

Les 16 dentistes tchécoslovaques qui se sont réfugiés à Toronto l'été dernier, ont échoué à l'examen pour la licence institué par le Collège royal des Chirurgiens-Dentistes de l'Ontario. Sur 36 candidats qui se sont présentés à l'examen, seulement neuf l'ont réussi.

Avant d'arriver au Canada, les 16 Tchécoslovaques avaient signé des documents dans leur propre langue établissant clairement qu'ils comprenaient qu'ils ne pourraient probablement pas exercer leur profession dans notre pays. L'automne dernier, néanmoins, le CRCO dérogea à ses règlements et donna son autorisation aux dentistes de passer un examen pour la licence. L'échec des Tchécoslovaques a été attribué à des normes différentes de pratique en Ontario et dans leur propre pays, à des faiblesses en dentisterie opératoire, à une connaissance insuffisante des méthodes canadiennes ainsi qu'à des problèmes de langue.

Chronique internationale

Selon l'ADA le tabac menace la santé publique

"Le tabac constitue un péril suffisamment grave pour la santé des Américains pour se ranger parmi les plus importants que le pays connaisse." C'est ce qu'il ressort d'une récente déclaration de l'Association dentaire américaine à un comité de la

Chambre des Représentants des E.-U. La déposition de l'Association révèle que:

—chez le fumeur de cigarette, le taux de la mortalité par le cancer buccal de tout type est quatre fois plus élevé que chez le non-fumeur;

—chez le fumeur de pipe ou de cigare, le taux de la mortalité par le cancer buccal de tout type est trois fois plus fort que chez le non-fumeur;

—chez le fumeur de cigarette, le taux de la mortalité par le cancer de la langue est cinq fois et demie plus grand que chez celui qui ne fume pas la cigarette.

L'Association dentaire américaine a réitéré son appui aux quatre recommandations suivantes:

1. Une mise en garde du fait que les cigarettes sont dangereuses pour la santé et peuvent entraîner la mort par le cancer ou autre maladie;

2. Cet avertissement devrait paraître dans toutes les annonces publicitaires en faveur des cigarettes ainsi que sur le paquet;

3. L'indication de la teneur en goudron et en nicotine de chaque cigarette devrait paraître dans toute publicité concernant les cigarettes ainsi que sur le paquet;

4. L'interdiction complète de toute publicité en faveur des cigarettes à la télévision et à la radio.

Les organisations dentaires

La Société dentaire de Montréal élit le Dr Matteau

Le Dr Jacques Matteau vient d'être élu récemment président de la Société den-

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association dentaire canadienne étaient les suivantes au 30 juin:

Fonds d'obligations gouvernementales \$13.839;

Fonds d'obligations corporatives \$14.921;

Fonds d'actions ordinaires \$24.896.

L'avoir total (valeur marchande) du régime se montait à \$9,354,119.22.

Au cours du mois précédent, les transactions d'actions ordinaires ont été les suivantes: vente 2,000 actions de Kaiser Steel Corporation.

Pour de plus amples renseignements, veuillez écrire à: The Administrator of CDA-sponsored Pension and Insurance Plans, Professional and Industrial Pensions Ltd., 2249 Yonge St., Toronto 295, Ont.

a été nommé directeur-gérant du Collège des chirurgiens-dentistes de la Colombie britannique à partir du 1^{er} juin. Il succède au Dr W. Ross Upton, de Vancouver, qui a démissionné le 15 mars de ses fonctions de directeur exécutif du Collège, de l'Association dentaire de la Colombie britannique et de la Société dentaire de Vancouver et environs.

M. Croft était directeur exécutif de la Fédération ontarienne des associations de la construction. Il a quitté l'ADC en avril 1967 après avoir été secrétaire adjoint et directeur du Bureau d'information au public depuis 1957.

Au cours de ses neuf années et demie de service à l'ADC, M. Croft s'est occupé des activités de tous les conseils et comités ainsi que du Conseil des Gouverneurs, des congrès nationaux, de l'information au public, de la fluoruration, des expositions scientifiques et de l'enseignement dentaire.

Diplômé de l'université Western Ontario, M. Croft est membre de l'Institut des directeurs d'associations et de la Société canadienne de relations publiques.

taire de Montréal. Il remplace le Dr Hubert La Belle.



Le Dr Jacques Matteau

Les autres membres du Conseil de direction sont les Drs Léon Daigle, président désigné; René Bourcier, vice-président; P.-J. Trudeau, secrétaire et Denis Laflamme, trésorier.

Nomination de M. Croft au poste de directeur en C.B.

L'ancien secrétaire adjoint de l'Association dentaire canadienne, M. K. L. Croft,

L'enseignement dentaire

Enseignement clinique post-universitaire institué à l'université Western Ontario

La Faculté de chirurgie dentaire de l'université Western Ontario a posé, le 24 mars, le premier jalon important en enseignement clinique post-universitaire lorsque le Conseil de cette faculté a approuvé un rapport sur l'éducation clinique avancée en dentisterie. Le rapport recommande la création d'un nouveau diplôme de maîtrise en dentisterie clinique (M Clin Dent) qui serait accordé après la réussite d'un cours élaboré à cette fin. Le rapport insiste aussi sur le fait que la portée, la qualité et la teneur de l'éducation clinique doivent correspondre aux exigences des certificats de spécialisation en Ontario ainsi qu'à l'examen en vue du fellowship institué par le Collège royal des chirurgiens-dentistes du Canada.

La Faculté espère obtenir l'approbation nécessaire de l'université le plus rapidement possible afin de faire débiter ce

programme en formation clinique dès l'automne 1971.

Programme d'hygiène dentaire à l'université Western Ontario

A partir de septembre 1970, selon B. P. Martinello, directeur du Département de dentisterie sociale, la Faculté de chirurgie dentaire de l'université Western Ontario offrira pour la première fois un cours de quatre ans menant au baccalauréat en hygiène dentaire. Après la réussite de ce cours, les diplômés auront les compétences nécessaires pour occuper de hautes fonctions administratives en hygiène publique ou des postes de professeurs dans l'enseignement de l'hygiène dentaire selon des programmes qui sont déjà en vigueur, ou qui seront élargis ou tout à fait renouvelés.

Hommes et femmes seront admis et les classes ne dépasseront pas 20 étudiants. Le programme consistera en quatre années d'études académiques après la 13^e année du système ontarien. Un diplôme de bachelier en science (hygiène dentaire) sera décerné après la réussite de ce cours.

Le projet a été soumis au Sénat de l'université pour approbation.

Ottawa octroie \$35 millions pour la création du Centre des Sciences de la Santé à McMaster

D'Ottawa on annonce des contributions fédérales au montant total de \$34,917,600, provenant du Fonds des Ressources de la Santé, pour la création du Centre des Sciences de la Santé de l'université McMaster à Hamilton. Ce montant comprend un octroi de \$33,750,000 pour la construction même du centre. C'est l'octroi le plus considérable jamais accordé depuis la création du Fonds en 1966. Celui-ci dispose de \$500 millions de capitaux.

La première étape du centre polyvalent, dont on prévoit l'achèvement en 1971, comprend un édifice unique logeant un Collège des Sciences de la Santé ainsi qu'un hôpital universitaire de 420 lits. Des plans pour un développement ultérieur prévoient l'addition possible d'une faculté dentaire après 1975.

Possibilités d'études

PROGRAMMES AVANCÉS

■ L'Ecole de Médecine Dentaire de l'université Tufts offre des programmes avancés en chirurgie buccale, périodontie, dentisterie restauratrice, pathologie buccale, endodontie et radiologie. Les postulants peuvent obtenir un certificat ou un diplôme de maîtrise en science en poursuivant des cours allant de pair avec un entraînement spécialisé. Les programmes en chirurgie buccale, périodontie, pathologie buccale et endodontie ont reçu l'approbation provisoire préliminaire du Conseil de l'enseignement dentaire de l'Association dentaire américaine.

Pour tous renseignements, veuillez écrire à: J. H. Kronman, Director, Division of Graduate Studies, Tufts University School of Dental Medicine, 136 Harrison Ave., Massachusetts 02111, USA.

Projet de faculté dentaire à l'université de Calgary

L'université de Calgary examine la possibilité de créer de nouvelles installations destinées aux études dentaires post-universitaires, et qui seraient ensuite complétées par la mise en place d'un programme complet d'études dentaires. Le projet est appuyé par la Société dentaire de Calgary et environs et par l'Association dentaire de l'Alberta. Il a été accepté par le comité de planification pour les sciences de la santé et il attend l'approbation du comité de planification académique, du conseil général des facultés, du bureau des gouverneurs et de la commission de l'université.

L'économie

Les médecins veulent choisir leurs représentants et s'élèvent contre les pouvoirs discrétionnaires du bill 30

Au cours d'une conférence de presse donnée à Montréal au début du mois de juin, par le président de la Fédération des médecins omnipraticiens du Québec, le Dr

Gérard Hamel, et le président de la Fédération des médecins spécialistes du Québec, le Dr Raymond Robillard, ces derniers ont relevé certaines anomalies du bill 30 présenté à l'Assemblée nationale.

Dans sa forme actuelle, le bill 30 autorise le gouvernement à choisir lui-même les deux médecins qui siégeront à la Régie de l'assurance-maladie et ceux-ci pourraient fort bien n'être que des créatures politiques.

L'article 2 du bill 30 donne également au gouvernement le droit de régir le système d'assurance-maladie par voie de décrets puisque, d'une part la Régie est sous l'autorité du lieutenant-gouverneur en conseil (donc le cabinet des ministres) et d'autre part, l'article 14 confère à la Régie le droit de modifier l'ensemble des règlements (et non pas seulement ceux qui sont de régie interne) à condition de recevoir l'approbation du cabinet. Ces pouvoirs sont donc discrétionnaires et ouvrent la porte à la politique.

"En 1966, les accords signés avec le gouvernement ont reconnu aux médecins le droit de participer à l'élaboration du régime de soins aux assistés sociaux et de choisir leurs représentants à la Commission d'assistance médicale", ont souligné les deux présidents.

Le Dr Robillard, répondant à une question d'un journaliste, a déclaré: "Il sera possible d'instaurer un régime d'assurance-maladie d'ici le 1^{er} juillet 1970, mais ce sera un tour de force".

Le taux de croissance des dépenses hospitalières est plus élevé au Québec

M. Jean-Paul Marcoux, directeur du Service de l'assurance-hospitalisation a déclaré que la province de Québec utilise le plus de personnel pour le fonctionnement de ses hôpitaux, et que de 1961 à 1968, le taux de croissance annuelle des dépenses hospitalières a été de 16.57 p. 100, comparativement à 12.36 p.100 pour l'ensemble du Canada et à 11.83 p.100 pour l'Ontario. L'hôpital québécois utilise une moyenne de 17.7 heures-employés par jour-patient, comparativement à la moyenne nationale de 15 et de 14.6 pour l'Ontario.

Le budget actuel de l'assurance-hospitalisation est de \$506 millions, une augmentation de \$44 millions sur l'année dernière.

M. Marcoux a souligné que des économies importantes pourraient être réalisées en groupant au niveau des régions les achats de certaines fournitures qui représentent une dépense importante dans le budget d'un hôpital.

Offre alléchante de l'Ile-du-Prince-Edouard aux dentistes

Pour inciter les dentistes à venir exercer leur profession à l'Ile-du-Prince-Edouard, le gouvernement provincial offrira à ceux-ci la possibilité d'exercer dans un cabinet dentaire privé tout établi et ne comportant aucun risque pécuniaire pour le dentiste.

Grâce à ce programme qui doit entrer en vigueur cette année, un cabinet dentaire complètement équipé sera fourni pendant un an sans aucun loyer à payer.

La province garantira un revenu brut minimum de \$9,000 pour prendre soin à demi-temps des enfants nécessiteux ainsi que des enfants de 1^{ère} et 2^{ème} années des régions rurales.

Le ministre provincial de la Santé, Bruce Stewart, pense qu'un dentiste pourrait gagner entre \$15,000 et \$20,000 la première année. Par la suite, il espère que le dentiste profitera du service d'emprunt disponible pour fin d'installation professionnelle et qu'il s'établira dans cette province.

L'assurance-maladie de la Nouvelle-Ecosse comprend certains soins dentaires

Depuis le 1^{er} avril dernier, certains services de dentistes sont inclus par la Nova Scotia Medical Services Inc., lorsqu'ils sont accomplis dans un hôpital.

Le président de la commission d'assurance-maladie de la province, R. M. Black, a déclaré que cette prestation ne s'applique qu'aux soins dentaires chirurgicaux qui doivent être rendus dans un hôpital pour des raisons médicales.

La Nouvelle-Ecosse, le Manitoba et la

Terre-Neuve participent au régime fédéral d'assurance-maladie depuis le 1er avril. Deux autres provinces, la Saskatchewan et la Colombie britannique y participaient déjà.

Faible utilisation du programme d'assistance dentaire de Toronto

Selon W. L. Turnbull, du Service du Bien-être social de Toronto, l'utilisation et le coût des soins dentaires accordés dans cette ville aux assistés sociaux sont inférieurs aux prévisions. Le coût du programme est de \$6,000 à \$8,000 par mois, et est assumé à parts égales par la municipalité et la province. Quelque 300 personnes l'utilisent chaque mois. Il apparaît que les dépenses seront très inférieures aux \$432,000 prévus pour l'année.

Les bénéficiaires sont les 34,000 chômeurs de la ville qui peuvent demander chaque mois une carte dentaire à présenter à leur dentiste. Le dentiste inscrit ses honoraires sur la carte, puis l'expédie à l'Association dentaire de l'Ontario qui le rembourse à raison de 90 p.100 de l'échelle d'honoraires de l'ADO. L'ADO envoie ensuite une facture mensuelle au Service du Bien-être social. Les services de prothèses constituent un problème non encore résolu. Le Service du Bien-être social n'accorde à présent que \$65 pour les prothèses complètes.

Entraînement pratique et examens plus longs pour les dentistes tchécoslovaques

Le Collège royal des Chirurgiens-Dentistes de l'Ontario essaie de mettre au point une forme d'entraînement pratique pour les 16 dentistes tchécoslovaques qui se sont établis dans cette province, après s'être enfuis de leur pays l'été dernier. Voilà la déclaration circonspecte faite à 12 de ces dentistes lors d'une réunion avec les autorités du Collège, le 4 juin.

On s'attend à ce que les 16 dentistes qui échouèrent en mai dernier à un examen pour la licence d'une durée de trois jours, le reprennent en novembre.

On s'attend aussi à ce que les examens à venir pour les dentistes ayant suivi leurs

cours en dehors de l'Amérique du Nord, soient beaucoup plus étendus et puissent durer trois semaines. Ainsi le Collège sera plus à même de juger avec précision les capacités des dentistes ayant suivi leur cours à l'étranger.

Soins médicaux accrus avec l'aide des "assistants aux médecins"

H. S. Ingraham, commissaire de la Santé et président de la Commission de la Santé publique de l'état de New York, a déclaré récemment qu'il fallait accroître l'efficacité des soins médicaux en faisant appel aux "assistants aux médecins", afin de prodiguer les services de santé requis dans les régions de l'état de New York qui comptent trop peu de médecins.

La Commission a rencontré dernièrement les doyens de 12 facultés de médecine de l'état afin d'étudier un rapport sur la répartition des médecins. Elle s'intéressera immédiatement aux recommandations visant à procurer plus de services de santé dans les régions où l'on note une certaine carence de soins médicaux.

Le Dr Ingraham a ajouté que des assistants, ayant poursuivi les études et l'entraînement requis, peuvent aider les médecins à offrir des soins médicaux et des services de santé à beaucoup plus de gens. Cependant, de tels assistants ne fourniraient leurs services aux patients que sous la direction du médecin pour qui ils travaillent.

La recherche

Les fonds de cavité isolent la pulpe des ciments acides

Une étude effectuée à l'Université de l'Indiana révèle que les obturations de ciment au silicate demeurent plus acides (pH environ 5.5) qu'on ne le croyait et que les ingrédients du ciment peuvent pénétrer une épaisseur considérable de dentine.

En conséquence les chercheurs recommandent d'employer des fonds de cavité d'eugénate ou d'hydroxyde de calcium, et non pas de vernis copal pour isoler la

pulpe de l'obturation au silicate. Des études *in vivo* sur dents de singe ainsi que des examens de dents humaines extraites montrent que ces fonds de cavité empêchent la fuite de l'acide tout en permettant au fluor de passer de l'obturation dans la dent où il aide à interrompre la carie. Le vernis copal protège également la pulpe, mais ne devrait pas être employé car il arrête l'infiltration du fluor. Les vernis sont toutefois utiles pour les amalgames car ils éliminent le défaut microscopique d'herméticité qui cause la sensibilité, la détérioration de la pulpe et la décoloration de la dent.

Réunion sur les recherches en matériaux dentaires du 6 au 8 octobre

Le US National Bureau of Standards et l'Association dentaire américaine organisent un symposium international sur les recherches en matériaux dentaires du 6 au 8 octobre. Le symposium marque le 50^e anniversaire des débuts de la recherche dentaire au National Bureau of Standards. Il réunira d'éminentes personnalités du monde entier venues apprécier l'état et les tendances actuelles ainsi que les progrès en vue dans le domaine des matériaux dentaires.

Les séances auront lieu dans les nouveaux locaux du National Bureau of Standards à Gaithersburg, Maryland. Les participants pourront se loger à l'hôtel Sheraton-Park à Washington; un service d'autobus sera organisé entre l'hôtel et les locaux du NBS à Gaithersburg. Pour tout renseignement, écrire à George Dickson, Room A145, Polymers Building, National Bureau of Standards, Washington, DC 20234, USA.

Problèmes émotifs et l'articulation temporo-mandibulaire

De nouvelles recherches à Chicago visent à soulager les douleurs faciales aiguës en améliorant le diagnostic et les soins.

Leurs études précédentes ayant mis en cause des problèmes émotifs chez de nombreux patients, deux dentistes et un psychologue du centre médical de l'université de l'Illinois vont mettre à l'épreuve leur

théorie selon laquelle des habitudes buccales visant à soulager la tension émotive peuvent conduire aux douleurs faciales violentes difficiles à diagnostiquer et causées par la dysfonction de l'articulation temporo-mandibulaire.

Alors que certains patients pouvaient être classés comme névrosés, les tests psychologiques ont montré que la plupart réagissaient au stress, tout comme les patients souffrant d'ulcères et d'obésité. Sous l'influence d'une tension émotive, certains patients serrent ou font grincer leurs dents ou mâchent des crayons et autres objets durs. L'effort que doivent fournir les muscles masticateurs peut provoquer des spasmes musculaires, l'un des premiers symptômes de la dysfonction de l'articulation temporo-mandibulaire. Le rôle de l'effort musculaire fut confirmé quand les chercheurs découvrirent que des volontaires "normaux" subissaient une douleur semblable à celle des souffrants en mordant fort et aussi longtemps que possible un appareil relié à un poids.

Les chercheurs supposent que les spasmes musculaires peuvent déplacer la mâchoire ce qui permet un changement de position des dents. Le déplacement peut gêner la mastication et détraquer l'articulation qui pourrait finalement être atteinte de dégénérescence.

Le rôle du dextran insoluble dans la plaque bactérienne

Toutes les bactéries connues provoquant la carie sur la surface lisse des dents forment des plaques et secrètent des polysaccharides complexes (dextran et levan) qu'elles tirent surtout du sucrose ou du sucre de table. Cependant, d'autres bactéries synthétisent ces polysaccharides sans former de plaques.

Il a maintenant été démontré par des études au Forsyth Dental Centre de Boston que seules les grosses molécules de dextran et de levan avec des poids moléculaires trop élevés pour être solubles ont la viscosité nécessaire pour faire adhérer la plaque à des surfaces lisses. Beaucoup de bactéries ne forment que des variétés plus petites et plus légères de dextran.

Des expériences antérieures montrent

que l'addition de l'enzyme dextranase au milieu de culture contenant des souches de streptocoques qui causent la carie chez les animaux, empêchent la formation de plaques, non pas en attaquant les bactéries mais en réduisant les grosses molécules insolubles de dextran en parcelles plus petites et solubles. La dextranase n'a cependant pas d'effet sur les molécules de levan. Les chercheurs pensent que certaines molécules acceptrices de glucosyl en concurrençant l'enzyme formant le dextran (dextran-sucrase), inhibent la formation de molécules insolubles de dextran. L'un des meilleurs de ces accepteurs est le dextran d'un poids moléculaire peu élevé.

Il deviendra peut-être possible par la suite soit d'ajouter des molécules rivales dans l'alimentation pour empêcher la plaque, soit de dissoudre la base adhésive de la plaque avec du dextranase, et obtenir ainsi un nouveau moyen de prévenir la carie des surfaces lisses.

La santé publique

Des dentistes de la Saskatchewan mènent une enquête dans les régions arctiques

Trois dentistes de l'université de la Saskatchewan sont revenus dernièrement d'une enquête dentaire menée auprès des habitants des localités de l'Arctique central canadien. Le groupe était composé de C. W. B. McPhail, professeur et chef du Département de dentisterie sociale et préventive; de T. M. Curry, directeur provincial et professeur adjoint en clinique dentaire; ainsi que de R. D. Hazelton, professeur adjoint en orthodontie. C'est par avion que le groupe visita Eskimo Point, Whale Cove, Rankin Inlet, Coral Harbour, Baker Lake et Repulse Bay, qui est située juste à l'intérieur du Cercle arctique.

Dans chaque localité ils ont enregistré les résultats des examens dentaires des membres de toute la population scolaire, de quelques enfants d'âge pré-scolaire ainsi que de certains adultes. Grâce aux

photographies et aux modèles, il fut possible d'enregistrer les états pathologiques les plus intéressants. Les docteurs McPhail, Curry et Hazelton ont aussi mené une enquête bactériologique dans trois de ces localités et pris soin des cas d'urgence dans tous les centres visités.

Les premiers résultats indiquent un niveau élevé de malocclusion chez les enfants d'âge scolaire, et particulièrement un blocage des incisives latérales supérieures par les incisives latérales inférieures et les canines. Chez les enfants âgés de 9 à 16 ans on ne décèle que peu de caries dentaires; par contre celles-ci étaient beaucoup plus fréquentes chez les plus jeunes. Les trois dentistes ont enregistré plusieurs cas intéressants concernant l'arrêt de la carie et des anomalies morphologiques des dents.

Leur projet fut rendu possible grâce à des octrois du Ministère de la Santé nationale et du Bien-être social, ainsi que de l'Institut des Etudes du Grand Nord, de l'université de la Saskatchewan à Saskatoon.

La technologie

Appareil de radiographie suédois gros comme un stylo

Un appareil de radiographie de la taille d'un stylo a été mis au point en Suède. Destiné à divers emplois et facile à transporter, l'appareil est large d'un tiers de pouce, long de quatre pouces. L'iode radioactif constitue la source du rayonnement. L'iode est déposé sur un fil d'argent et scellé dans une capsule de métal munie d'un écran protecteur en plastique. Il n'a ainsi pas besoin d'être relié au courant électrique et peut être employé à volonté pendant environ deux mois avant d'être rechargé.

L'appareil pourrait servir à des examens dentaires en série et à des emplois médicaux spécialisés ainsi qu'à l'analyse industrielle des matériaux et des joints de soudure, surtout dans la construction aéronautique et électronique.

group dynamics in a dental public health program

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Dental health cards are mailed each September to parents of Grades 1, 3, 5 and 7 children in the Okanagan region of British Columbia. The cards are to be signed by the attending family dentist and returned to the director of the dental public health program. Students whose cards are not received by the following February are subsequently contacted by telephone. Dental award days held in May and June in all Okanagan schools provide a further incentive for returning the cards. About 65 per cent of the cards are received before the end of the school year. A further 10 per cent of the children who do not return their cards are caries-free or have received all necessary restorative treatment.

Chaque année, au mois de septembre, on envoie par la poste des cartes qui rappellent les mérites de l'hygiène dentaire aux parents des enfants de 1^e, 3^e, 5^e et 7^e années de la région de l'Okanagan de la Colombie britannique. Les cartes doivent être signées par le dentiste qui soigne la famille et les renvoie alors au directeur du programme d'hygiène publique dentaire. Au mois de février, on se met en communication par téléphone avec les élèves qui n'ont pas renvoyé leur carte. Des distributions de prix ont lieu en mai et juin dans toutes les écoles de l'Okanagan et servent à encourager la participation. Près de 65 p.100 des cartes reviennent avant la fin de l'année scolaire. Une proportion de 10 p.100 des enfants qui ne renvoient pas leur carte sont exempts de carie ou ont déjà reçu tous les soins requis.

We have used a form of group dynamics for several years to stimulate public response to the dental public health program for school children in the Okanagan district of British Columbia. Our aim is to eliminate dental neglect, prevent the premature extraction of teeth and promote the purchase of routine professional care for the children. The program operates in the cities of Kelowna, Penticton and Vernon; the towns of Revelstoke, Summerland, Osoyoos and Oliver; in smaller communities around these centres and in some distinctly rural schools. By selecting alternate grades our small team of one dentist, two dental hygienists and three dental assistants can serve 15,000 children in seven school districts every two years.

Each September we mail dental health cards to the parents of children in Grades 1, 3, 5 and 7. They are asked to have these cards signed by the family dentist. The cards are then deposited in special 'community dental health boxes' which have been installed in the offices of all local dentists. The children are not examined before the cards are issued.

Subsequently, we present dental health lessons which are graded according to the children's interest level. At the same time we repeatedly urge the students to have their cards signed. Daily spot announcements over three local radio stations, periodic newspaper articles, shop window

displays and television appearances help to publicize the program.

We also prepare a list of students whose cards are not returned by the following February. Our dental assistants and hygienists then telephone the parents of these children. This is a concentrated and difficult task, requiring poise and adequate dental health knowledge in order to handle the different responses of parents. These range from reactions such as "It is none of your business" and "I can't afford it" to "Thanks for reminding me." Our replies are always friendly but positive. We explain that we cannot find all the children with dental neglect without help from the parents who routinely purchase dental services for their children. This convinces many parents that they can aid the community by having the card signed. We have prepared a telephone manual for our assistants and hygienists which lists typical responses of parents and appropriate answers.

In May and June dental award days are held in every Okanagan school. All children who return their cards receive an award at this time. The awards include dental health banners, ball point pens, dental buttons, tooth paste or toothbrushes. The children are also examined at this time.

The dental award day is the one feature that really sparks the group dynamics. From the first day of school the students are told about the awards and how they can earn one. They are motivated to participate, and our conversations with parents indicate that pressure is applied at home. A few people complain that we bribe the children, but on the whole we experience very little criticism. Feelings are tender in Grade 1, however; therefore all children at this level receive a colouring book on dental award day, and those

TABLE 1 Dental health cards returned spontaneously by February 15, 1968.

District	Students in Grades 1, 3, 5, 7	Cards returned	
		No.	%
Vernon	1,493	629	42.2
S.D. 23	1,457	629	43.9

TABLE 2 Results of telephone follow-up after February 15, 1968.

Distric	Students in Grades 1, 3, 5, 7	Cards not returned	Without telephone		No answer		Contacted		Cards returned by contacted students	
			No.	%	No.	%	No.	%	No.	%
Vernon	1,493	864	143	16.5	78	9.0	643	74.5	269	41.8
S.D. 23	1,457	828	145	17.5	87	10.5	596	72.0	225	37.7

TABLE 3 Cards returned by June 30, 1968.

District	Grade	Students	Cards returned	
			No.	%
Vernon	1	381	230	60.3
	3	374	273	72.9
	5	372	249	66.9
	7	366	259	70.7
Total		1,493	1,011	67.7
S.D. 23	1	416	254	61.0
	3	351	234	67.2
	5	342	221	65.2
	7	348	224	65.2
Total		1,457	933	64.5

who have earned it get the additional award.

RESULTS

Typical results for 1967-68 are exemplified by data from the city of Vernon, which has 12 resident dentists, and from the rural portion of School District 23. The latter includes the small centres of

Okanagan Mission, Rutland, Peachland, Westbank, Winfield and Oyama and some country schools. There are no resident dentists in the rural portion of District 23.

More than 40 per cent of the cards were returned spontaneously before February 1968 (Table 1). Subsequent telephone calls produced contact with about 70 per cent of the remaining children (Table 2). About 40 per cent of these children returned signed cards before the end of the school year. In all, about 65 per cent of the cards were returned by June 30, 1968 (Table 3).

The dentist does not sign the card unless he has supervision over the child's dental health. His signature attests that the child has participated in the program. This makes the card response meaningful. In addition, a further 10 per cent of all children were either caries-free or had previously received all necessary restorative treatment. Although these children did not return their cards, they raise the program satisfaction level to 75 per cent (Table 4).

On the other hand, our subsequent examinations disclosed that the percentage of children showing premature loss of one or more teeth was almost twice as great in the group who did not return their cards. This group also had many

TABLE 4 Overall result.

District	Grade	Cards returned	Cards not returned		Program satisfaction level
			Caries-free	Treatment completed	
		%	%	%	%
Vernon	1	60.3	4.2	5.3	69.8
	3	72.9	4.8	6.4	84.1
	5	66.9	1.2	9.7	77.8
	7	70.7	1.1	7.1	78.9
S.D. 23	1	61.0	3.2	5.6	69.6
	3	67.2	5.1	6.8	79.1
	5	65.2	1.6	9.7	76.5
	7	65.2	1.1	10.0	76.3

TABLE 5 Dental health indices in Grade 7 children. Comparison between the children who returned their dental health cards and those who did not.

District	Students					
	No.	Caries-free %	With treatment completed %	With partial treatment %	Never treated %	With premature extractions %
Vernon	366	2.4	51.4	33.9	12.3	10.6
Cards not returned	107	3.7	24.3	38.4	33.6	15.0
Cards returned	259	1.9	62.6	32.1	3.4	8.8
S.D. 23	348	4.3	50.5	33.9	11.3	17.8
Cards not returned	121	3.3	28.9	42.1	25.7	23.1
Cards returned	227	4.6	62.8	29.1	3.5	14.5

more children with complete dental neglect (Table 5).

SUMMARY

A form of group dynamics for stimulating participation in a dental public health

program has been described. We have found that this methodology encourages the majority of children to participate even though their parents must pay for any necessary treatment. The superior dental health of children who return their cards persuades us that the program improves the level of dental health.

390 Queensway

“United we stand, divided we fall” is an ancient maxim originating perhaps in one of Aesop’s Fables. In any case it is as valid today in the affairs of dentistry as when Aesop wrote it. Discord poses the greatest threat to the dental profession. Unity is a cause in which all of the forces of dentistry should be enlisted. Our obligation is to work to this end, thereby creating a strong profession.

effects of Dilantin and phenobarbitone on histamine and antihistamine activity in various dog tissues

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Combined diphenylhydantoin (Dilantin) and phenobarbitone did not alter histamine levels and antihistamine activity in dog gingiva. This result differs from the effects of Dilantin given alone. Phenobarbitone may depress the effect of Dilantin by stimulating liver microsomal enzymes which participate in degradation of this anticonvulsant. Antihistamine activity in untreated dog liver, colon, lung, kidney and cerebrum was generally correlated with the known histamine content of these tissues. Parotid extracts exhibited greater antihistamine activity than extracts from the submaxillary glands. This may explain why the two glands respond differently to histamine injections.

La combinaison de la diphénylhydantoïne (Dilantin) et du phénobarbital n'a pas changé les niveaux d'histamine et l'activité antihistaminique dans la gencive de chien. Administré seul, Dilantin donne des résultats différents. Le phénobarbital peut diminuer l'effet de Dilantin en stimulant les enzymes microsomales du foie qui participent à la dégradation de cet anticonvulsif. L'activité antihistaminique dans le foie, côlon, poumon, rein et cerveau canins non traités correspondait généralement au contenu connu d'histamine dans ces tissus. Des extraits de la parotide ont présenté une plus grande activité antihistaminique que des extraits de glandes sous-maxillaires. Cela peut expliquer la différence des réactions des deux glandes aux injections d'histamine.

THE EFFECTS OF DIPHENYLHYDANTOIN AND PHENOBARBITONE ON DOG GINGIVAL TISSUE EXTRACTS

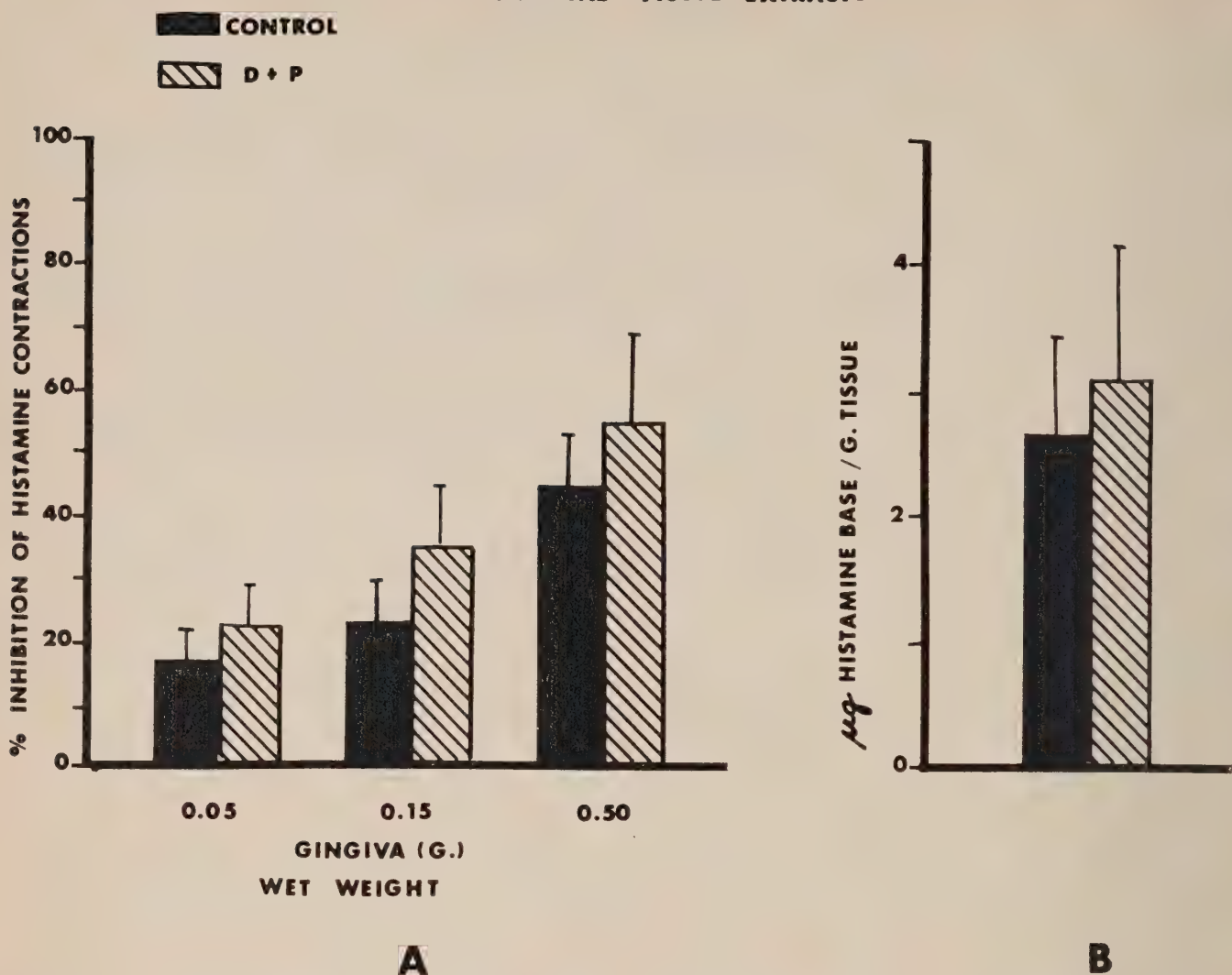


FIGURE 1 A, Antihistamine activity (represented by percentage inhibition of 0.2 μg . standard histamine-induced guinea pig ileum contractions) and B, Histamine levels present in dog gingival extracts.

Francis and Melville^{1,2} have shown that normal dog or human gingival extracts possess striking antihistamine activity and only traces of histamine. Similar effects were noted after phenobarbitone administration in dogs.² However, diphenylhydantoin (Dilantin) pretreatment increased the histamine levels and depressed histamine inhibition in hyperplastic gingival extracts.^{1,2} Histamine levels were also depressed in one extract taken from the hyperplastic gingiva of a patient previously treated with Dilantin and phenobarbitone.² We therefore decided to investigate the effects of combined Dilantin and phenobarbitone on histamine levels and the antihistamine activity of dog gingiva. This drug combination is commonly used in anticonvulsant therapy. We also compared the an-

tihistamine activity of gingiva and other tissues in normal untreated dogs to ascertain whether this activity parallels the tissue histamine content.

MATERIALS AND METHODS

Three male beagles (13.3 Kg. average weight) were given a daily capsule of combined Dilantin Sodium (4 mg./Kg.) and phenobarbitone (2 mg./Kg.) for 106 days. The capsules were camouflaged in a small portion of food. Untreated male dogs served as controls. Subsequently, all dogs were intravenously anaesthetized with 35 mg./Kg. pentobarbitone sodium and the gingiva was excised. Other tissues (liver, colon, lung, kidney, cerebrum

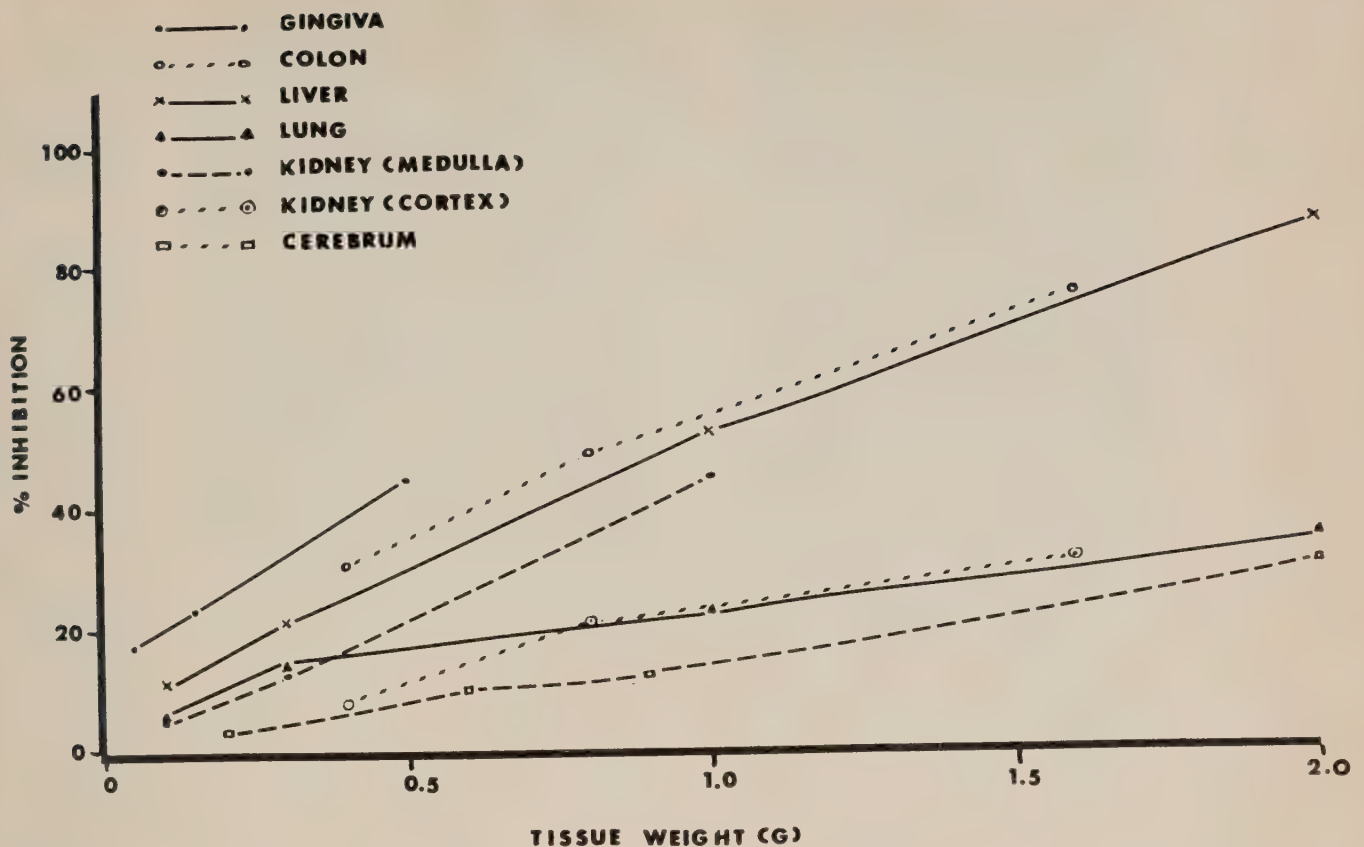


FIGURE 2 Distribution of antihistamine activity in extracts of various untreated dog tissues. The abscissa represent wet weight equivalent of tissue; the ordinate represents percentage inhibition of histamine-induced ileum contractions.

and salivary glands) were excised from control dogs. The tissues were weighed and immediately immersed in concentrated hydrochloric acid. Histamine was extracted from gingiva according to the method of Barsoum and Gaddum.³ Antihistamine extracts were prepared using the method of Francis et al.⁴ as modified by Stotland et al.⁵ Histamine and antihistamine extracts were assayed on isolated guinea pig ileum preparation as described elsewhere.^{1,2,4,5}

Statistical analyses of the data were carried out according to Steel and Torrie.⁶ The Student's two-tail *t* test or the analysis of variance (one-way classification) were used as tests of significance depending upon the number of means being compared.

RESULTS

Combined Dilantin and phenobarbitone therapy in dogs produced no significant change in the antihistamine activity (Fig-

ure 1A) or histamine levels (Figure 1B) of gingival extracts.

We compared the antihistamine activity of several normal dog tissue extracts at the 0.5 Gm. dose level (Figure 2). This activity was comparable in gingiva and colon but more pronounced in these two tissues than in liver, lung, cerebrum and kidney medulla and cortex. Histamine inhibition did not differ appreciably in comparisons made between other tissues.

At the 1 Gm. dose level, the antihistamine activity of colon was significantly greater than that of lung, brain and kidney cortex, and the activity of liver was significantly greater than that of cerebrum and kidney cortex. There were no significant differences between the other tissues (Figure 2).

We also compared the antihistamine activity of extracts from parotid and submaxillary glands. The average equivalent amounts of tissue required to produce 50 per cent inhibition of 0.2 μ g. standard histamine-induced contractions (ED_{50}) were 0.46 ± 0.04 Gm. and 1.19 ± 0.24 Gm. respectively. The parotid ED_{50} was signif-

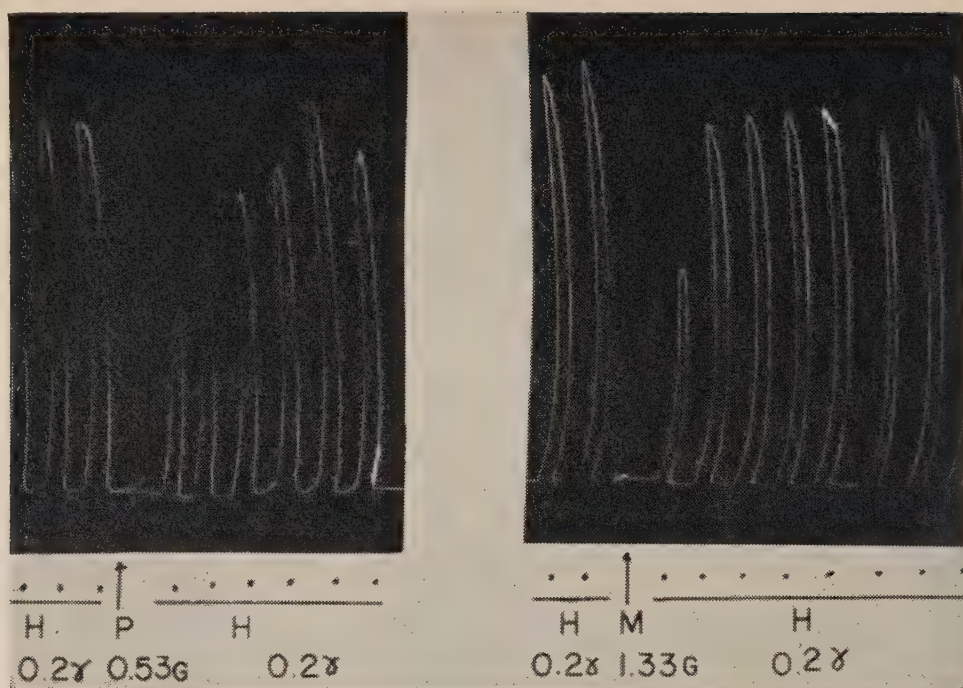


FIGURE 3 Illustration of an assay on guinea pig ileum preparation showing the ED_{50} of parotid (P) and mandibular (M) glandular extracts. H represents $0.2 \mu\text{g}$. standard histamine.

icantly lower than that of the submaxillary gland ($.02 > p > .01$), reflecting greater antihistamine activity of the parotid gland. An example of each is illustrated in Figure 3. The activity of parotid and gingival extracts did not differ appreciably, although this was not compared statistically.

DISCUSSION

It is evident that prolonged administration of combined Dilantin and phenobarbitone does not alter the antihistamine activity or histamine levels of gingival extracts in dogs. A similar effect was previously observed after pretreatment with phenobarbitone alone.² However, prolonged Dilantin administration depresses antihistamine activity of hyperplastic gingival extracts in dogs.

Cucinell et al⁷ reported the effect of prolonged phenobarbitone pretreatment (16 mg./Kg. twice daily for 30-70 days) in dogs. The half-life of intravenous doses of Dilantin (50 mg./Kg.) in plasma was significantly reduced in treated animals. The authors concluded that phenobarbitone stimulates the liver microsomal enzymes

involved in Dilantin metabolism. Phenobarbitone may thereby diminish the effects of Dilantin (increased histamine levels and decreased antihistamine activity) in gingival extracts.^{1,2} Further evidence is needed, however, before definite conclusions can be reached.

The distribution of antihistamine activity in normal untreated dog tissues appears to parallel the histamine levels present in these tissues. For example, gingiva,^{1,2,8} liver⁹ and colon¹⁰ reportedly possess a relatively high amount of histamine. On the other hand, cerebrum¹¹ and kidney¹² tissue histamine is low. Moderate amounts of histamine are present in the lung.¹²

Parotid extracts of untreated dogs exhibit more antihistamine activity than submaxillary gland extracts. Stavsky¹³ showed that the dog submaxillary gland responds to much smaller doses of histamine than the parotid gland in regard to salivary secretion. He states that the secretory mechanism of histamine action differs in the two glands. These differences may be related to the differences in distribution of antihistamine activity in these glands, and the problem warrants further study.

SUMMARY

1. The antihistamine activity and histamine levels of gingival extracts were unaltered after combined administration of Dilantin and phenobarbitone in dogs. Phenobarbitone may stimulate production of liver microsomal enzymes which increase Dilantin degradation and therefore depress the effects of Dilantin on the gingiva.

It was previously thought that the increased histamine content of hyperplastic gingival tissue produced by Dilantin administration may have been the trigger mechanism for hyperplasia. Since phenobarbitone alone or the combination of Dilantin and phenobarbitone produced no changes in normal histamine levels and antihistamine activity, this may be only a part of the mechanism responsible for gingival hyperplasia produced by Dilantin alone. Other factors must be investigated before definite conclusions can be reached.

2. The antihistamine activity varied in several tissues from untreated dogs. Gingiva exhibited the greatest activity. This distribution can be correlated with reported histamine levels to a degree.

3. Dog parotid extracts exerted greater antihistamine activity than those of the submaxillary gland. This may explain the differences in their salivary secretion upon stimulation by histamine injections.

This investigation was supported by the Associate Committee on Dental Research, National Research Council of Canada.

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Erratum • The article, "Pilot Dental Program for Penticton School Children" by A. S. Gray, Diane Rothwell Hawk and Irene I. Jordan, appeared on page 316 of the June Journal. The second sentence of the fourth paragraph on page 317 should have read, "Ten children were difficult to handle."

cryoprecipitate for oral surgery in factor VIII deficiency

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Dental extractions in haemophiliacs need no longer pose a threat to life. These surgical procedures can be carried out quite safely if certain safeguards are observed. These include adequate replacement of blood, local haemostatic measures, immobilization of the operative site by means of splints and a head harness, and administration of cryoprecipitate, a new blood product which counteracts the factor VIII deficiency of haemophilia.

Il n'y a plus de raison que les extractions dentaires chez les hémophiles mettent la vie des hémophiles en danger. On peut entreprendre ces mesures chirurgicales en toute sécurité à condition d'observer certaines précautions. Citons parmi elles les disponibilités d'une réserve de sang de remplacement suffisante, des soins hémostatiques locaux, l'immobilisation de la région opératoire au moyen d'attelles et d'un casque ainsi que l'administration de précipité cryogène, un nouveau sous-produit du sang qui compense l'absence du facteur VIII chez les hémophiles.

This paper describes personal experience with the use of cryoprecipitate in the control of haemophiliac complications in oral surgery. The genetically induced deficiency of factor VIII in classical haemophilia (haemophilia A) and in some cases of von Willebrand's disease is well known.¹⁻³ Factor VIII deficiency is sometimes also an acquired abnormality in chronic hepatic dysfunction, the collagenoses, and consumption coagulopathies arising from extreme utilization as in haemorrhage or pan-thrombosis. But the factor VIII deficiency of haemophilia A is the one most likely to be encountered in dentistry.

Proper management of oral surgery in haemophiliacs includes correction of the haemostatic deficit⁴⁻⁶ during and after surgery, the application of suitable splints to bleeding sockets, the use of antibiotics and sedatives and the closest cooperation between oral surgeon and haematologist. There have long been considerable impediments to correction of the haemostatic defect. These arise from the patho-physiology of factor VIII and from economic considerations. Treatment of the deficiency formerly depended upon fresh or fresh frozen plasma or fresh blood. Recent observation of a precipitate in fresh plasma whose temperature has been lowered to -25°C led to investigation of its nature.⁷ The conclusion that it was a highly active composite of factor VIII and fibrinogen triggered a most important advance in

the management of haemophilia. Other workers have confirmed these results.⁸⁻¹⁰

DENTAL CONSIDERATIONS

Cryoprecipitate is only one of the factors necessary for successful dental extractions in haemophilia A. Acrylic splints, with artificial teeth when necessary, and transfusion of blood preparations also contribute to the control of bleeding.¹¹ Some bleeding is almost inevitable on the day of operation and is liable to recur on the fifth postoperative day. The blood-loss is not constantly related to the clinical severity of the case and there is little quantitative difference when up to three teeth are extracted at one operation.⁴

Acrylic splints are used in most haemophilia centres. Their value has been endorsed by several groups.⁴⁻⁶ These splints may be transparent appliances which allow undisturbed inspection of the underlying socket or opaque full dentures. Their purpose is to apply local pressure painlessly with minimal disturbance of oral function. Sharp edges rocking splints or excessive pressure from the head harness used to appose the jaws may invalidate otherwise adequate haemostasis.

PATHO-PHYSIOLOGY OF FACTOR VIII

Factor VIII levels are measured by comparing test plasmas against a number of pooled normal plasmas. The factor VIII level of the pooled plasma is arbitrarily set at 100 per cent. Using this technique, Pitney¹² found that factor VIII levels vary from 60 to 160 per cent in normal subjects. Exercise,¹³ haemorrhage (personal observation) and infusions of adrenalin influence these levels.¹⁴ Haemophilia A is always associated with depleted levels, the clinical severity of the disease being closely correlated with the prevailing factor level which varies in individuals from time to time. Severely affected subjects commonly have levels of less than 1 per cent. Mildly affected individuals demonstrate

concentrations of up to 10 per cent. Higher figures are rare in haemophiliacs.

A normovolaemic adult can tolerate up to 1,000 ml. of intravenously administered plasma. This is the maximum volume compatible with haemodynamic safety.¹⁵ Under good conditions, plasma factor VIII will subsequently rise to about 24 per cent. This level falls off rapidly although the hypervolaemia persists for considerably longer. Satisfactory haemostasis does not occur in haemophiliacs at levels below 35 per cent.⁶ This leaves a 10 per cent differential between the level achieved by plasma transfusion and that which is necessary, a gap that was closed by the advent of concentrated fractions of human¹⁶ and animal^{17,18} factor VIII. Human fraction has many advantages but in commercial preparations it has relatively low potency and is very costly. The animal product is highly potent and less expensive but it is also antigenic.

The management of surgery in a haemophiliac nearly always extends to a week. Factor VIII must be administered during this period. Its lability necessitates frequent administration, usually every six to eight hours. This led to a search for a cheap, easily prepared product without the handicaps of previous replacement substances. In 1965 Pool and Shannon⁷ found that fresh plasma cooled to very low temperatures (-25°C) produced a precipitate. On closer examination this proved to be a highly concentrated fraction of factor VIII and fibrinogen. They termed the material cryoprecipitate and found that it could be separated from plasma by centrifugation and stored in a deep freeze for subsequent use. Its value in the clinical management of haemophilic complications has since been confirmed and extended by other workers.⁸⁻¹⁰

PREPARATION OF CRYOPRECIPITATE

To prepare cryoprecipitate, fresh blood must be collected in plastic bags. Glass bottles cannot withstand the intense temperature gradients involved. Twin connecting packs are used. After collection the blood is immediately centrifuged. This separates the red cells, leaving the

TABLE 1 Effect of administration of single doses of cryoprecipitate and snap-frozen plasma.

Case	Weight Kg.	Material administered		Plasma AHF factor level (% of normal)	
		Snap-frozen plasma (units)	Cryoprecipitate (units*)	Before treatment	After treatment
1	48.1		3, stored three days	5	10
2	65.2		3, fresh	5.0	12.5
3	66.1		4, fresh	2.5	7.5
4	72.1		4, fresh	5.0	18
		4		4.0	14
5	38.2		2, fresh	0	6.3
		2		6.5	19
6	28.5		2, fresh	9	26
		2		9	27
7	17.2		3, stored three days	5	35

*1 unit of cryoprecipitate is the amount of the material obtained from 540 ml. blood.

factor VIII and fibrinogen fraction in the supernatant plasma. The supernatant is squeezed through the connecting tube into the secondary pack and submerged into a mixture of alcohol and carbon dioxide snow for 20 minutes. The low temperature thus achieved (-25°C) induces the precipitation of the factor VIII and fibrinogen fraction. The frozen plasma and the packed red cells are placed in a refrigerator overnight to thaw. The cryoprecipitate adheres to the wall of the pack but, after thawing further, it is sedimented by centrifugation. By applying pressure on the secondary pack the supernatant plasma (now devoid of factor

VIII and fibrinogen) is returned to the packed red cells thus reconstituting the blood and allowing its use for all purposes except factor VIII deficiency and hypofibrinogenaemia. This technique, unlike earlier ones involving the preparation of fresh plasma, prevents wastage of red cells. The cryoprecipitate in the secondary bag appears as about 20 ml. of milky fluid. It may be stored for short periods at -20°C . Cryoprecipitate of the appropriate blood group may be given to patients with haemophilia. As has been indicated, the factor VIII activity in donors may vary considerably; therefore the yield of activity in the cryoprecipitate

TABLE 2 Effect of administration of multiple doses of cryoprecipitate.

Case	Weight (Kg.)	Operation	Daily dose of cryoprecipitate (units)	No. of days	Plasma AHF level as % of normal (range of daily rise)
8	69.3	Dental extraction	4, fresh	5	8-23
9	27.9	Dental extraction	4, fresh	5	14-48
10	48.1	Removal of toenail	4, fresh	5	5-13
11	31.5	Dental extraction	4, stored at -30°C for one week	5	12-33
12	17.2	Dental extraction	3, stored at -30°C for two weeks	5	7-19



FIGURE 1 Head harness used for adults.

will also vary. However, in practice there is a ten- to fifteenfold concentration of factor VIII in cryoprecipitate as compared with fresh plasma. Formerly, one unit was the amount of the material derived from one unit of fresh whole blood. This definition was subsequently altered and is now defined as the activity of 1 ml. of plasma with an assay value of 100 per cent of factor VIII.

CLINICAL USE

Cryoprecipitate was used in 12 patients with haemophilia. Eight received single doses by intravenous infusion. The dose varied in seven patients according to the subjects' weight. Details of the doses and resulting changes in plasma factor VIII levels are shown in Table 1. The incre-

ments obtained, expressed in terms of percentage of normal factor VIII concentration,¹⁹ varied from 5 to 18 per cent in the first seven cases. One other patient (case 8) received a larger dose to test the effect. This patient showed an increment of 30 per cent.

The effect of snap-frozen plasma was compared with plasma in three patients (cases 5-7). They were given snap-frozen plasma in amounts equivalent to that from which the dose of cryoprecipitate had been prepared. Interestingly, snap-frozen plasma and cryoprecipitate produced plasma factor VIII increments of the same order.

The efficacy of cryoprecipitate concentrate was then tested by using it for the control of haemorrhage in five patients undergoing minor surgery. Four had dental extractions and one had an ingrowing great toenail removed. Sufficient cryo-

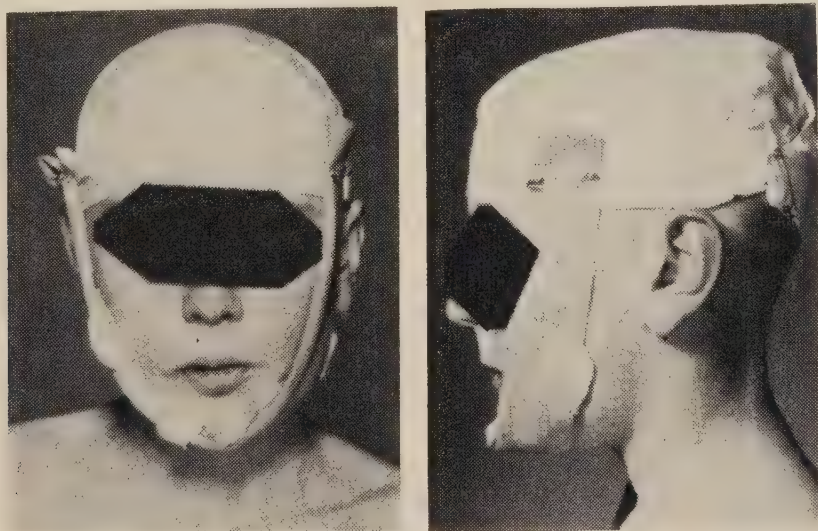


FIGURE 2 Head harness used for children

precipitate was prepared to cover the first five postoperative days. The clinical results were satisfactory but the daily estimated rise of plasma factor VIII varied considerably in each patient (Table 2). The figures resemble the order of change observed when using snap-frozen plasma in equivalent amounts.

By using fresh blood or plasma the degree of bleeding from sockets in haemophiliacs could usually be considerably reduced. Clot formation was poor, however. When a clot formed, it was slowly organized, the epithelialization being very protracted. When cryoprecipitate was used, bleeding was virtually the same as in a normal person and organization was quick but epithelialization was slow. No explanation is forthcoming. Similar tardy healing occurs despite good haemostasis when other very potent concentrates like porcine factor VIII are used.

Fresh cryoprecipitate cannot always be made when required. The advantages of preparing it when convenient and storing it for use when needed are therefore considerable. Accordingly, experiments were carried out with cryoprecipitate which had been stored for various periods at -30°C . Material stored for three days and seven days gave satisfactory results in four patients. With cryoprecipitate stored for two days the plasma factor VIII rose from 5 to 10 per cent in case 1 and from 5 to 35 per cent in case 7 (Table 1). Increments in patients (cases 12 and 13) given one week old cryoprecipitate are shown in Table 2. It is clear that the material maintained its efficacy.

A protocol of management has now been devised. This is based on the foregoing results and further observations in other haemophilic complications.

PROTOCOL OF MANAGEMENT

The definitive diagnosis of haemophilia rests on the demonstrable abnormality of certain blood tests. The whole blood clotting time is unreliable for this purpose.²⁰ Specific bleeding disorders can be identified by platelet count, bleeding time, thromboplastin generation time and prothrombin time. A partial throm-

boplastin time may sometimes replace the thromboplastin generation test. The latter test distinguishes haemophilia A (factor VIII deficiency) from haemophilia B (Christmas disease, factor IX deficiency).

The best results are gained when dental extractions are carried out as an elective procedure, allowing time for the preparation of acrylic splints and obtaining supplies of cryoprecipitate. It is mandatory that the extractions be done in hospital.

PRE-OPERATIVE MEASURES

1. Splints are prepared and an appropriate head harness is selected (Figures 1 and 2).

2. An adequate supply of cryoprecipitate is essential. A haemostatic agent like fresh blood is commonly given before and perhaps a day after extraction. Bleeding in haemophiliacs, which usually recurs about the fifth day after extraction, may be hard to control when there is progressive consumption and ultimate exhaustion of factor VIII. Replacement should therefore cover a period of seven days, even when no bleeding occurs, and cryoprecipitate must be available during that time. A crude dose weight principle (1 unit per 20 Kg. body weight every eight hours) applies because strict accuracy may be negated by variations in the blood volume resulting from haemorrhage. An average adult needs about 9 units per day.

3. Assessment of veins: Haemophiliacs frequently require blood transfusions. Unfortunately, many of these patients have 'cut downs' at some stage, thus robbing them of veins required for later and perhaps equally vital use. It is necessary to verify that enough good accessible veins remain.

4. An adequate supply of crossmatched blood is required. The quantity is determined by the size of the patient.

5. Factor VIII assays are carried out whenever possible. Results are better if the effects of replacement can be quantitated and variations remedied. However, the technique is complex and is confined to a few specialized centres.

6. One hour before the operation a priming transfusion of cryoprecipitate is quickly administered (4 units) through an indwelling catheter.

7. With adequate haemostasis no special anaesthetic risks arise. Tracheal haematomas only occur in patients who have not received haemostatic correction.

8. The teeth are extracted with great care. Experience shows that patients whose teeth are difficult to extract are also apt to escape from haemostatic control.¹⁰

9. A local haemostatic like thrombin is applied to the sockets. The splints are inserted, the jaws are apposed and a head harness is fitted. The latter is worn for about seven days and must be carefully adjusted. Undue tightness may cause distress while slackness negates its purpose — to exert adequate pressure on the socket. The splint is removed when the clot is fully organized, usually five to seven days after extraction.

POSTOPERATIVE MEASURES

The patient is fed through a straw for several days. Sedatives are prescribed to reduce activities which may disturb the splints and hence the clot.

Four units of cryoprecipitate are given at eight hour intervals when even no bleeding is apparent. The splints should be kept in place and the patient should remain in bed until the formation of a grey-green clot signals epithelialization of the socket. Cryoprecipitate therapy should continue until this occurs — usually five to seven days after the extraction.

If factor VIII assays are done, plasma specimens should be collected at a constant time (usually within half an hour to an hour) after administration of cryoprecipitate. It is not necessary to assay after each administration but assays should be done once every 24 hours. Persistent failure to achieve expected factor VIII levels may be due to insufficient or impotent cryoprecipitate or the development of circulating anticoagulants. The latter occur when using other fractions.²¹ Personal experience likewise indicates a higher in-

cidence of anticoagulants in haemophilic patients given human concentrate or a large volume of very fresh blood. Although no reports directly attributable to cryoprecipitate have so far appeared, there is no reason why this complication may not occur when using cryoprecipitate. The importance of this observation resides in the danger of continuing to give a material which may induce the formation of the circulating anticoagulants and potentiate their action.

SUMMARY

Successful dental extractions in haemophiliacs require correct blood replacement therapy, close cooperation between dentist and haematologist, and local haemostatic measures including dental splints and immobility induced by a head harness and sedation. A major advance is the concurrent administration of a new blood product, termed cryoprecipitate, which gives the patient greater safety from bleeding and shortens his stay in hospital.

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1053 Carling Avenue

Closeup on Teeth, a new 60 second CDA television filmlet, was distributed August 18 to television stations across the country. Its story is directed to teenagers and young adults. Starting with the question, "Have you ever noticed teeth?", it presents many situations illustrating the value of teeth in use and appearance. It ends with the personal question, "How do your teeth look on you?" Produced by Crawley Films for the Canadian Dental Association, this colour sound film is available in English and French. Other CDA-sponsored television filmlets are *Gum Disease* and *The Lion and the Mouse*.

orthodontic misdiagnosis

report of case

D. G. Woodside, DDS, MScD, FRCD (C)

Allen Feldman, DDS, MScD, FRCD (C)

Toronto, Ont.

A dentist who relies on non-professional advice for diagnosis and formulation of a treatment plan violates his professional obligations and jeopardizes the health of his patients. This article describes a malocclusion in a male during the mixed dentition period. The dentist, a general practitioner, consulted a widely used local commercial orthodontic laboratory about the proposed treatment. Had he followed the advice proffered, the result could have been disastrous for patient and practitioner alike.

CLINICAL AND RADIOGRAPHIC FEATURES

Figures 1 and 2 show the casts and intra-oral radiographs of the patient. The mandibular incisors are very slightly crowded. Maxillary second deciduous molars were prematurely lost. The maxillary first permanent molars have drifted mesially. Congenitally missing permanent teeth include the maxillary lateral incisors and second bicuspid, also the mandibular second bicuspid and second and third molars. Additional features are the 90 per cent overbite, 4 mm. overjet, slight constriction of the maxillary arch and crossbite involving the maxillary left deciduous and permanent first molars.

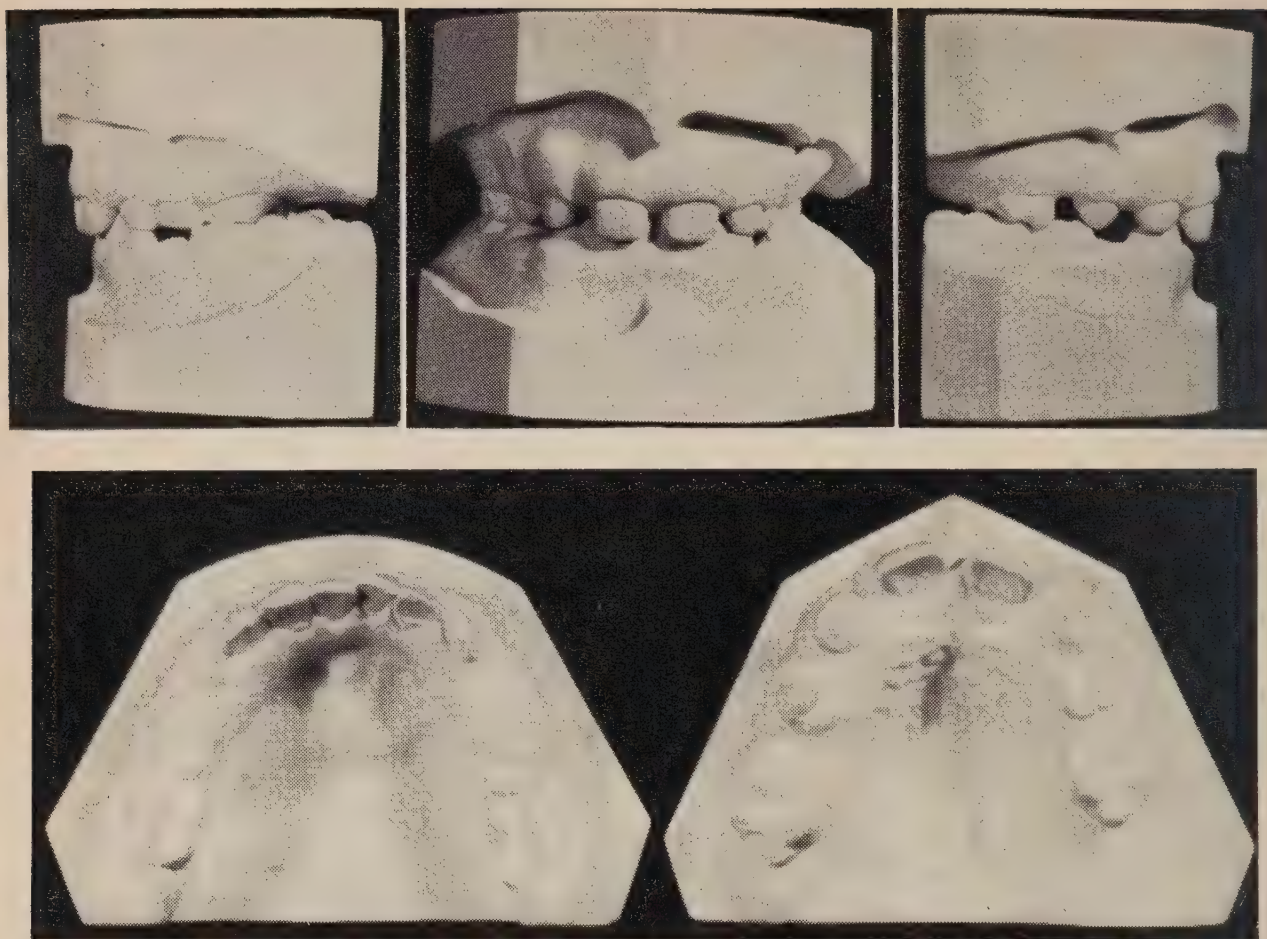


FIGURE 1

TREATMENT PROPOSED BY LABORATORY

Maxilla (Figure 3):

1. Fit Adams clasps (A) to right permanent first molar and left first bicuspid to retain a removable appliance.
2. Construct labial arch (B) to prevent rotation of the central incisors.

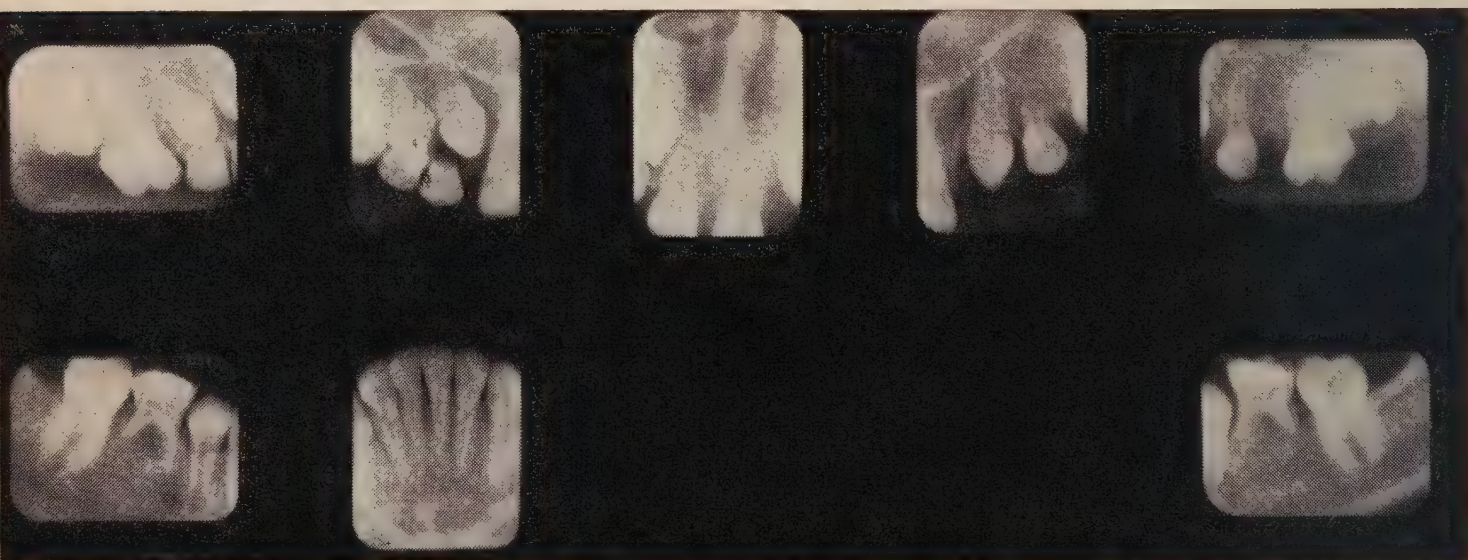
3. Attach spring (C) to move left central incisor mesially.

4. Attach spring (D) to move left first permanent molar distally.

5. Construct a removable appliance with expansion screw (E) to expand the upper arch by 4 mm. (16 quarter turns).

6. Incorporate incline guide-plane (F) to increase inter-arch distance.

FIGURE 2



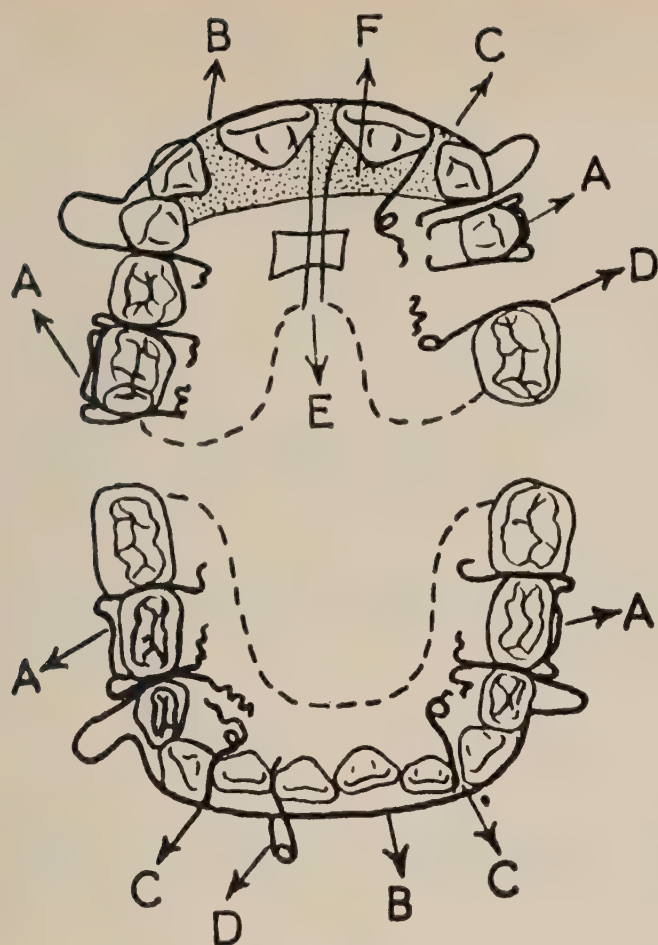


FIGURE 3 Treatment proposed by commercial orthodontic laboratory.

Mandible (Figure 3):

1. Extract the left central incisor following insertion of a removable appliance.

2. Fit Adams clasps to second deciduous molars to retain the appliance.

3. Construct labial arch (B) to help align both lateral and the right central incisors.

4. Attach springs (C) to move lateral incisors mesially.

5. Attach spring (D) to move right central incisor mesially.

The appliances were to be worn constantly except during meals. It was

suggested that the expansion screw in the upper appliance be given a quarter turn every seventh day in the direction of the arrow (E). The duration of treatment was estimated at 8-10 months. Also recommended was the subsequent placement of retaining appliances to be worn until all permanent teeth had erupted. Laboratory fees were assessed as follows: upper appliance \$33, lower appliance \$30, upper and lower retaining appliances \$46, for a total of \$109.

COMMENT

The extraction of a mandibular incisor is unjustified in most instances of orthodontic treatment planning. It is incomprehensible when the second bicusps and second and third molars are congenitally absent and especially when there is minimal crowding and a marked overbite as in this case. The regaining of space for the congenitally missing maxillary left second bicuspid is equally incomprehensible. Obviously, no consideration was given to the future occlusal relationship between the maxillary second molar and the mandibular arch. The diagnosis and the proposed treatment were incorrect, to say the least.

A dentist who relies upon non-professional advice violates the legal duty which he owes to his patient and thereby exposes himself to a malpractice lawsuit. No blame attaches to the laboratory since the law does not require that laboratory technicians possess and exercise the skill and learning demanded of the average dental practitioner.

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185 St. Clair Ave. West

erreur de diagnostic orthodontique

compte rendu d'un cas

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Le dentiste qui se fie aux conseils d'un laboratoire pour le diagnostic et la formulation d'un plan de traitement manque à ses obligations professionnelles et compromet la santé de ses patients. Cet article décrit une malocclusion chez un mâle à l'âge de la denture mixte. Le dentiste, un omnipraticien, avait consulté un laboratoire orthodontique local très employé au sujet du traitement. S'il avait suivi les conseils qui lui avaient été donnés, le résultat se serait avéré désastreux pour le patient comme pour le praticien.

SIGNES CLINIQUES ET RADIOGRAPHIQUES

Les figures 1 et 2 font voir les modèles et les radiographies intra-buccales du patient. Il y a un léger chevauchement des incisives mandibulaires. Il y a eu perte prématurée des deuxièmes molaires temporaires du maxillaire supérieur et migration des premières molaires permanentes en direction mésiale. Les incisives latérales permanentes et les deuxièmes prémolaires du maxillaire supérieur, ainsi que les deuxièmes prémolaires et les deuxièmes et troisièmes molaires mandibulaires permanentes sont absentes de naissance. Détails supplémentaires: une suroccclusion de 90 p.100, un surplomb de 4 mm, une légère constriction de l'arcade supérieure et une occlusion croisée des molaires temporaires et des premières molaires permanentes gauches du maxillaire supérieur.

TRAITEMENT PROPOSÉ PAR LE LABORATOIRE

Maxillaire supérieur (Figure 3):

1. Adapter des crochets Adams (A) à la première molaire permanente droite et à la première prémolaire gauche afin de fixer un appareil amovible.

2. Construire un arc vestibulaire (B) afin d'empêcher la rotation des incisives centrales.

3. Attacher un ressort (C) pour déplacer l'incisive centrale gauche mésialement.

4. Attacher un ressort (D) pour déplacer la première molaire permanente gauche distalement.

5. Construire un appareil amovible avec une vis de dilatation (E) pour dilater l'arcade supérieure de 4 mm (16 quarts de tour).

6. Incorporer un plan de guidage incliné (F) pour augmenter la distance entre les arcades.

Mandibule (Figure 3):

1. Extraire l'incisive centrale gauche après l'insertion de l'appareil amovible.

2. Adapter des crochets Adams aux deuxième molaires temporaires afin de fixer l'appareil.

3. Construire un arc vestibulaire (B) pour aider à l'alignement des deux incisives latérales et de l'incisive centrale droite.

4. Attacher des ressorts (C) pour déplacer mésialement les incisives latérales.

5. Attacher un ressort (D) pour déplacer mésialement l'incisive centrale droite.

Les appareils devaient être portés constamment sauf pendant les repas. On avait suggéré que la vis de dilatation de l'appareil supérieur reçoive un quart de tour tous les sept jours dans la direction de la flèche (E). Le traitement devait durer de 8 à 10 mois. On avait également recommandé dans la suite un dispositif de con-

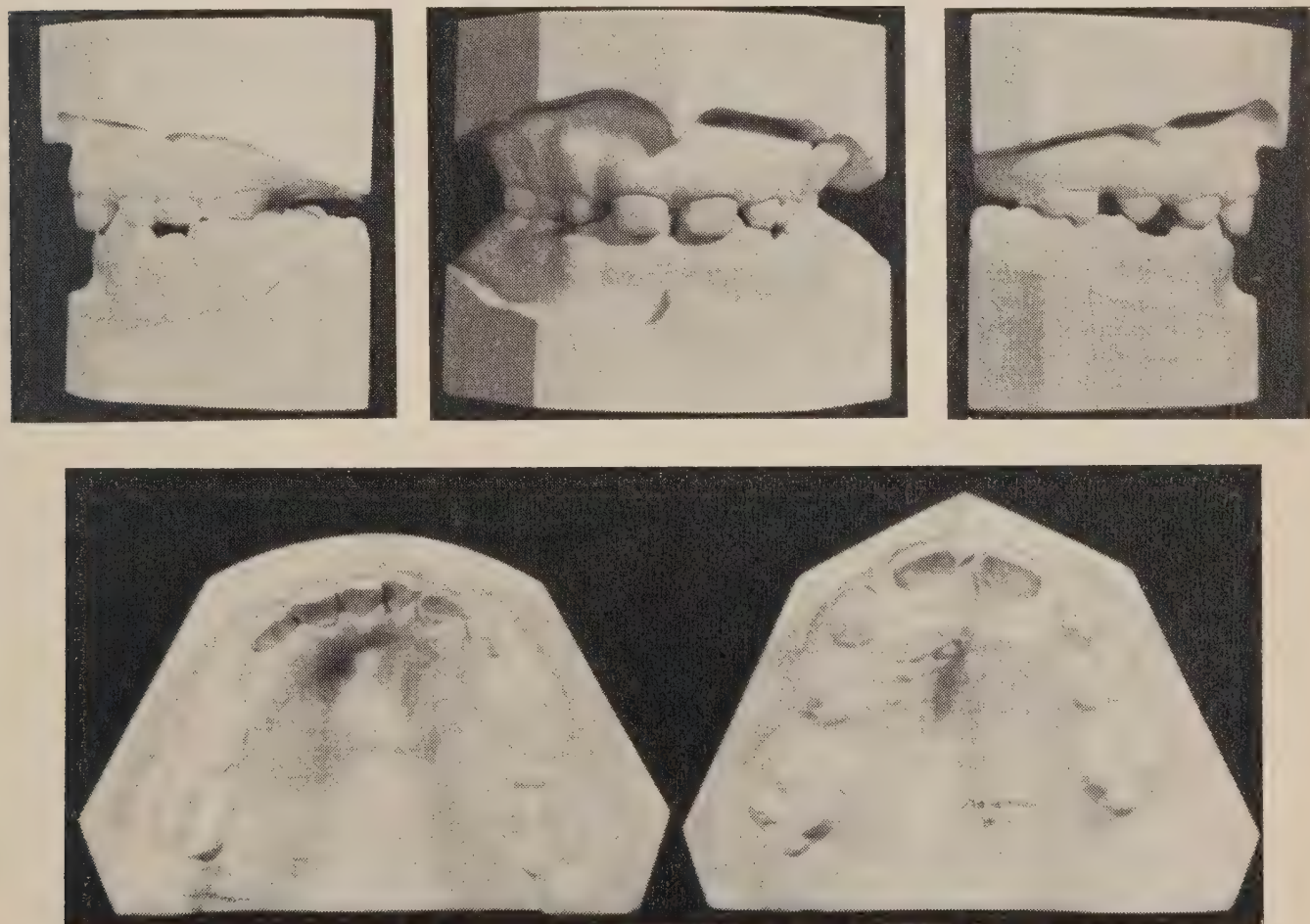


FIGURE 1

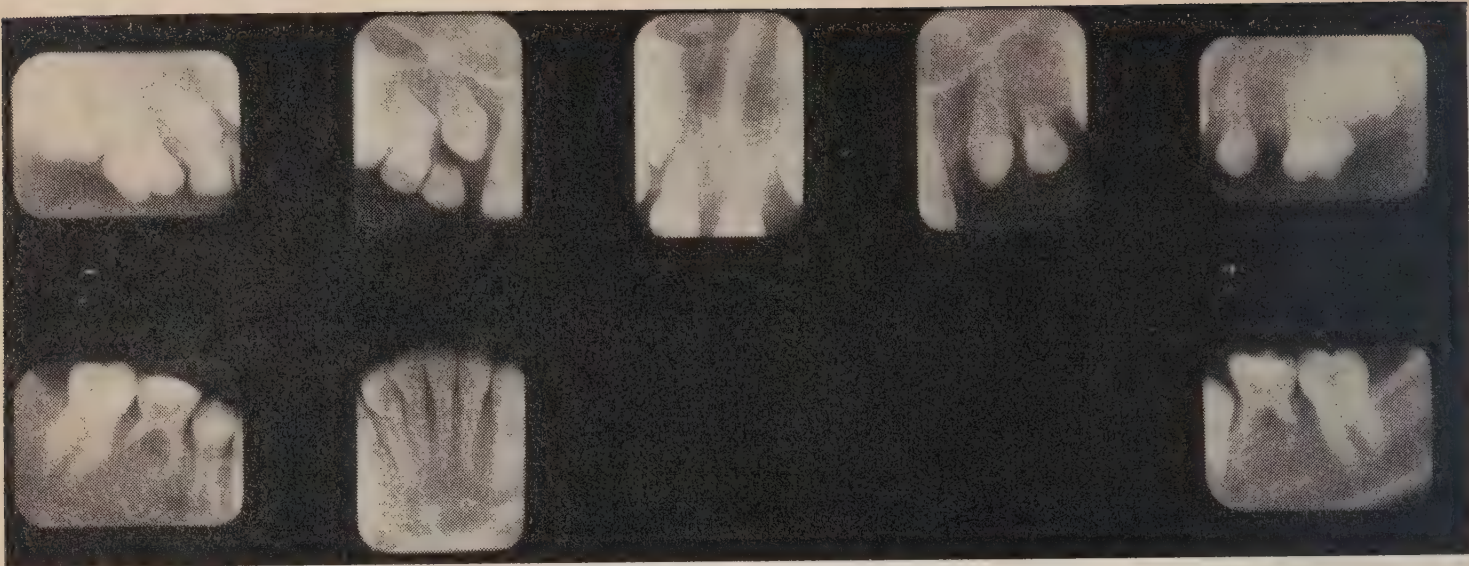


FIGURE 2

tention à porter jusqu'à l'éruption de toutes les dents permanentes. Les frais de laboratoire devaient être comme suit: appareil supérieur \$33, appareil inférieur \$30, appareils de contention supérieur et inférieur \$46, pour un total de \$109.

COMMENTAIRE

L'extraction d'une incisive mandibulaire n'est pas justifiée dans la plupart des plans de traitement orthodontique. Ceci devient incompréhensible lorsque les deuxième prémolaires et les deuxième et troisième molaires sont absentes de naissance et surtout lorsqu'il y a un encombrement minime et une suroccclusion prononcée comme il en est le cas ici. La reprise de l'espace pour la deuxième prémolaire gauche du maxillaire supérieur qui est absente de naissance est tout aussi incompréhensible. Il est clair que l'on n'a pas tenu compte du rapport occlusal à venir entre la deuxième molaire supérieure et l'arc mandibulaire. Le diagnostic et le traitement soumis sont inexacts, pour ne pas dire plus.

Le dentiste qui se fie à des conseils non-professionnels manque à son devoir légal envers ses patients et s'expose de ce fait à un procès pour faute professionnelle. On ne peut rien reprocher au laboratoire puisque la loi n'exige pas que les mécaniciens-dentistes possèdent et pratiquent le talent et le savoir exigés du praticien dentaire moyen.

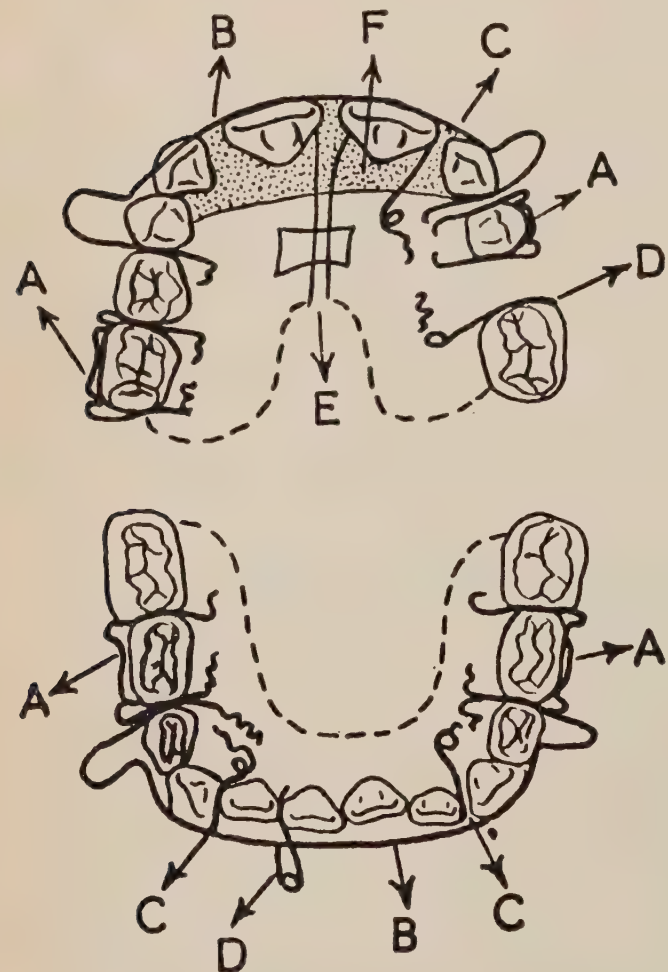


FIGURE 3 Traitement soumis par le laboratoire orthodontique.

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book reviews • analyse

Dental Examination Review Book

A. F. Gardner. Vol. 1, Ed. 2. New York, Medical Examination Publishing Company, Inc., 1968. 400 p. \$7.50

The value of this book, like the earlier edition, depends largely upon the reader. It is useful if he wishes to review a particular subject in a general way. For purposes of learning, however, it may do more harm than good.

Multiple choice questions certainly give the opportunity to check one's general knowledge; but the answers can be misleading when they are taken out of context and when questions are subsequently formed. It is therefore highly improbable that experts could achieve 100 per cent results in any particular subject; too many questions and answers are ambiguous or depend upon the opinion of a particular author.

The source of each answer is indicated. Proper use of the book therefore requires that the reader have access to reference texts so that the true meaning of each question and answer can be fully understood.

R. F. Harvey

Atlas of Operative Dentistry

W. W. Howard. St. Louis, The C. V. Mosby Company, 1968. 159 p. Illus. \$21.45

This is an excellent example of what an atlas should be: a book which presents technical detail in an orderly and progressive manner, accompanied by clear illustrations that follow in uninterrupted sequence and convey with clarity the full meaning of the text.

Howard has produced a book of exceptional quality and Clarice Francone has contributed 552 of the finest illustrations imaginable. As a consequence, every restorative problem discussed in the book is supported by superb illustrative detail. In the chapter on silver amalgam, however, more attention could have been directed to the preparation

of a Class III cavity and the forming and placement of the necessary matrix. The author advocates support of all proximal matrices with compound but gives little direction about the necessary techniques. Elsewhere, regrettably little space is given to the modification and application of mechanical separation. It is unfortunate that Howard does not deal with this more fully, for the literature lacks a well illustrated discussion of this topic.

The Mosby Company should now try to meld the talents of Gilmore and Howard. Gilmore is the author of Mosby's new and equally fine textbook, *Operative Dentistry*. It would be exciting if these two authors could be persuaded to prepare a two volume text and atlas combination. Such a product would be irresistible to the teacher and would stimulate renewed vitality in operative dentistry.

In the meantime, I have no hesitation in recommending the *Atlas of Operative Dentistry* to anyone seriously interested in the subject.

G. A. Brass

The Art and Science of Operative Dentistry

C. M. Sturdevant, R. E. Barton and J. C. Brauer, ed. New York and Toronto, Blakiston Division, McGraw-Hill Company, 1968. 529 p. Illus. \$24.60

The editors of this text are staff members of the University of North Carolina. There are also 12 contributors, 10 from North Carolina and two from the University of Oregon. The publication's outstanding feature is its excellent format and illustrations. The fine art work, which converts the book to a procedural atlas as well as a comprehensive text, is a credit to the ability of the late M. Lamar Harrison.

The introductory chapters cover the scope of operative dentistry, clinical anatomy, physiology and histology, aetiology and control of dental caries, examination, diagnosis and treatment planning, fundamentals of cavity preparation, instrumentation and operating positions, and the dental assistant's role in practice. These chapters are well organized. They present the philosophy and fundamental procedures employed in operative dentistry. While none is entirely comprehensive, each gives an adequate description. Most impressive is the first chapter on the scope and objectives of service. It presents the principles of ethical professional practice and suggests a philosophy for the dentist, the patient and the profession as a whole. The chapter on the aetiology and control of dental caries has some excellent electron photomicrographs by David Scott of the US National Institute of Dental Research. Examination and diagnosis are clear-

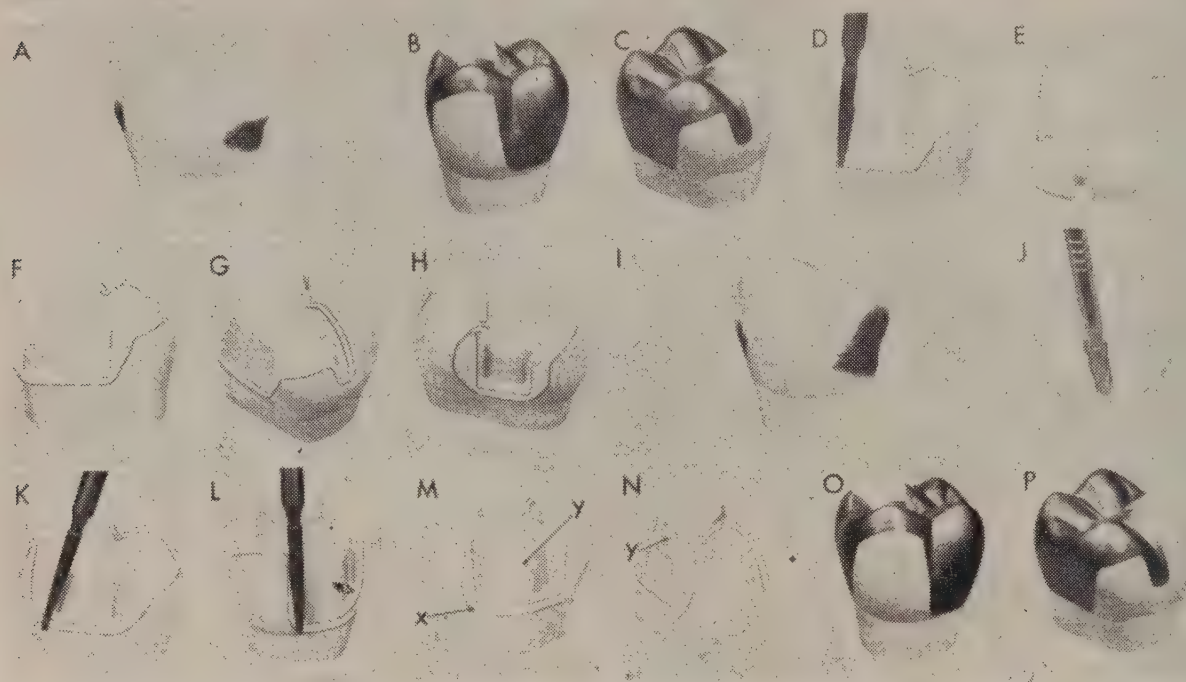


Fig. 13-23. A: Maxillary molar with caries on both the distofacial corner and mesial surface. B,C: Completed MODFI inlay for treating caries shown in A, facioocclusal view (B) and distolinguoocclusal view (C). D,E,F,G,H: Cavity preparation for treating caries illustrated in A, distoocclusal view with diamond stone being applied (D); occlusal view (E); distal view (F); distolinguoocclusal view (G); mesioocclusal view (H). I: Maxillary molar with deeper caries on the distofacial corner, and with mesial caries. J: Cavity preparation—minus bevels and flaring—for MODFI inlay to restore the carious molar shown in I. The No. 272 carbide bur is used to prepare a gingival shoulder and a vertical facial wall. K,L: Beveling the margins. M,N: Completed cavity preparation for treating caries shown in I. The gingival and facial bevels blend at x and y is the cement base. O,P: Completed inlay for molar illustrated in I.

ly and logically presented. Unfortunately, the description of treatment planning is largely confined to presentation and could have been expanded to complete an otherwise excellent chapter. Necessary nomenclature and cavity classifications are described in the chapter on fundamentals of cavity preparation.

Subsequent chapters give excellent step-by-step descriptions of various amalgam, gold inlay, gold foil, silicate cement, self-curing resin and class V ceramic porcelain inlay restorations. In the procedure for cast gold inlays, the author uses a 24 gauge gold alloy wire as sprue former. The wire is bent into a loop with U-shaped legs. The inlay is cast against this wire which then serves as a convenient means of handling the casting during fitting and polishing. Direct and indirect inlay methods are described. The indirect technique includes descriptions of hydrocolloid, rubber base and silicone impression materials. The laboratory procedure is limited to the functionally generated path technique using the 'Verticulator' mounting. This method is very clearly presented and generously illustrated, but a description and critical evaluation of other mounting and fabricating techniques would have enhanced this section. The gold foil section is a contribution from the University of Oregon Dental School. It describes various class III and class V foil restorations. The class V ceramic porcelain inlay is described in a separate

section to complete the restorative portion of the book.

A final chapter is devoted to a very brief summary of endodontic therapy. This is informative but too abbreviated. The book is otherwise an excellent reference text on operative dentistry.

J. H. Hibberd

Dental Practitioners' Formulary 1968

The British Medical Association and the Pharmaceutical Society of Great Britain. For use in the National Health Service. London, England, The British Medical Association and The Pharmaceutical Press, 1969. 64 p. 6s.

This is the seventh edition of this very compact guide to drugs used in dentistry. Notes for prescribers are given on the general management of oral infections and on drugs classified under antibiotics, corticosteroids, antihistamines, nervous system and nutrition. There is also useful information on adverse reactions to drugs commonly used in dental practice and others used to treat systemic disease which may present as disease of the mouth. Drug therapy which may cause special hazards in dental surgery is also discussed.

Clifford Reynolds

The vital test of a mature profession

For most Canadian dentists, October will be CFDE month. But for CFDE there is no single 'month;' it plans and works the year around to help train more teachers like Doctors George Zarb and Gérald Albert. Anyone who doubts the efficacy of CFDE should read their story in this issue of the Journal. They, and too few others like them, were supported by CFDE.

In Canada's rural small-town beginnings, aid was a very personal thing. Neighbours helped neighbours because they could see the need. But as small towns grew into cities those who needed were divided from those who had help to offer, and various fund raising agencies arose to bring the two together. CFDE serves us in a similar capacity but its significance for dentistry transcends the role of a charitable organization.

Canada has 21 million citizens but only 6,500 dentists. Manpower shortages exist throughout the dental profession, but the shortage of teachers seems remote to those members of the profession who are not associated with academic dentistry. The practitioner who enjoys an above average standard of living is usually oblivious of the amount of time, money and sacrifice involved in becoming a dental teacher. Indeed, many a promising young dentist would have been discouraged long ago by the sheer cost of it all were it not for CFDE. Yet this is a matter of concern for the entire profession because the delivery of high quality dental care depends directly on the graduation of well prepared dentists from adequately staffed dental schools; because without teachers, there can be no dentists; and because there can be no teachers without adequate funds to train them. The answer to this is money — given freely and generously through CFDE.

It is a vital test of a mature profession that its members voluntarily share the burden of their colleagues who prepare to give a greater donation for the good of all. These are not strangers within our gates; they are of us and among us. May the response to CFDE month therefore be warm and ample.

Donner un oeuf pour recevoir un boeuf

Selon le Dr Grayson Kirk de l'université Columbia, "l'éducation est l'industrie qui se développe le plus rapidement en Amérique", et l'essor, qu'a pris l'éducation au Québec se reflète également dans nos facultés dentaires. Sur les 22 dentistes qui ont bénéficié cette année des bourses du Fonds canadien pour l'enseignement dentaire, neuf sont originaires de la province de Québec. Ceci représente 40.9 pour cent du total distribué. Aucun commentaire n'est donc nécessaire.

Charité bien ordonnée commence par soi-même, et si notre profession souhaite récolter les attributs pédagogiques essentiels dont elle a besoin, ce sont les membres de cette profession, ceux qui en profiteront le plus, qui doivent participer à leur élaboration. Il n'est donc pas question ici simplement de créer des spécialistes, mais bien de former des éducateurs et des chercheurs.

La mémoire évoque souvent le souvenir de nos "bons" professeurs. Mais d'autres ne possédaient malheureusement pas le don d'enseigner et étaient forcés de se débrouiller de leur mieux. Mais voilà que les choses changent. Les facultés dentaires peuvent maintenant encourager ceux qui démontrent talent et aptitude pour l'enseignement. Le Fonds canadien nous aide à atteindre cet objectif.

Qu'il nous soit permis de faire ici une petite observation. Bien que les cours de maîtrise ont été élaborés afin de former les éducateurs, il semble dommage qu'aucune université, à notre connaissance, ait vu le besoin d'offrir des cours de méthodes pédagogiques et de donner ainsi une meilleure préparation au postulant en vue de sa carrière dans l'enseignement. Le FCED devrait voir à encourager une meilleure formation pédagogique.

Ceci dit, le FCED constitue le point de départ de l'avenir de la dentisterie au Canada. Une profession doit s'attendre, en bien ou en mal, à ce qu'elle s'est préparé par sa conduite. Comme on fait son lit, on se couche.

La langue et le Marché Commun • Il existe en Scandinavie un dépliant touristique tout à fait "européen". Les mots d'usage courant y sont donnés dans presque toutes les langues. Ainsi le mot *cafeteria* danois devient *snack-bar* en italien. *Snack-bar* sert pour toutes autres langues, même le français. En anglais cependant, *snack-bar* est tout naturellement traduit par *café*. — META/Journal des Traducteurs.

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association dentaire canadienne. Vous êtes invités à participer à cette section du Journal.

Proposed By-law Revision

To the Editor:

It appears to more than one observer that had the Aims and Objectives Conference, held last February, formulated the objectives of a national organization for dentistry, the annual meeting of the Board of Governors in Montreal would have been much more fruitful. The satisfactory amending of by-laws can only be accomplished if ideals are clearly stated beforehand. This has yet to be done, and the consequences of distraught delegates in Montreal, a public relations firm trying to cure our ills, and a special meeting of the Board are the ravages of this lack of insight.

Unless we can sort out what our purposes in the Canadian Dental Association are before the next constitutional conference in October, this meeting too will be disappointing. It behoves every member of our profession to concern himself with this problem sufficiently to guide our representatives on the Board of Governors.

At the risk of becoming tedious it would seem to our benefit to return to 'square one.' Because of the BNA Act, much of the

legislation under which dental service is provided in Canada varies from province to province. (The federal government has dictated only four broad principles to qualify for its subsidization of medical care.) Consequently, the complexion of many of the problems we encounter as a profession varies sufficiently that one policy or guideline will not satisfy everyone's needs. Great benefit can accrue, however, from the comparison of problems province to province. The outgrowth of new solutions should be abundant.

It might then be postulated that a primary objective of a national association should be to provide a forum for the communication of ideas, be they scientific or legislative.

There are many objectives which can be achieved most successfully by pooling our resources of manpower and money. This then makes a second worthy aim of a national organization: to cooperate in those areas where nation-wide concern is a common denominator.

By and large much of the structure of the CDA as it presently stands accommodates these objectives handsomely. The methods, representation, reporting and service to our profession of the integrals of this structure do not. If they did, there would be no need for such things as public relations studies. If, however, these objectives are kept clearly before us, many of the proposed by-law changes are thrown more sharply into focus. The by-laws lay out the ground rules for each area of interest. They place in serious question whether the CDA should be responsible for the accreditation of "facilities and programs in dental education of dental auxiliaries" or "support the principle of participation of profession-sponsored non-profit plans with or without funding privileges in the field of dental prepayment" (CDA Board of Governors agenda 1969). Was the Board aware of the implications of these resolutions? What practical purpose did the resolutions serve if dental auxiliaries are licensable in British Columbia and Ontario abounds with night school programs? And what about the pros and cons of profession-sponsored plans when these are not fully explained?

By the same measure, programs such as the new insurance proposals, aggressiveness in areas of public health education and the recruitment of dental students, the forthcoming new booklet on ethics and the relative value fee schedule revisions are worthy and fine examples of what we can accomplish collectively.

A criterion for the evaluation of every action of a viable national organization might be 'what service does this provide?' Clearly, the service should benefit the individual dentist primarily, secondly the profession and thirdly the public. The accent should be on 'provide,' for our association, to be strong, must act. It must provide a forum for the free exchange of ideas so that each province may grow to professional maturity, counselled by its brethren and free to determine its own course. It must provide vigorous programs in arenas of mutual interest. And it must, above all, serve the dentist.

W. C. Deacon, DDS,
1105 Carling Ave., Ottawa 3, Ont.

Dentine Regeneration

To the Editor:

I am pleased to comment on two articles in the May Journal.

Doctors Attalla and Noujaim are to be complimented on their fine scientific work, "Role of Calcium Hydroxide in the Formation of Reparative Dentine," which corroborates earlier findings by Sciaky and Pisanti. The practical significance of pulp capping need not be mentioned here, but it is important to recall the work of Stanley and others who found that, before applying calcium hydroxide or any other dentinogenic material to the pulp stump, all bleeding must have stopped and a clot must have formed (4-12 minutes following pulpotomy). This prevents dispersal of calcium hydroxide to areas deep in the pulp where secondary zones of dentinogenesis may develop and promote calcific degeneration and/or formation of pulp stones, both of which may pose a hazard to future endodontic therapy. I would also like to quote Massler who states that an adequate seal protecting the wounded pulp is more important than the medication used.

As for the article by Dr. Mézl, let me first quote from a poem by William Cowper: "God moves in a mysterious way,—His wonders to perform." After having plumbed the depths of some 10,000 root canals and read the endodontic literature of at least a similar number, I shall not be at all surprised if one day someone reports that he has found Roquefort cheese in a root canal. However, rare histopathological findings and general clinical recommendations are not of the same genre. It will surprise no one that every pulpal insult calls healing forces into play, but how is one to determine at the chair (without a post mortem analysis) that these forces will not be overwhelmed by the pathological onslaught? Who can tell whether, despite any initial success, the war will not be lost by

slow, painless pulpal degeneration? Perhaps Dr. Mézl may not mind having a 14 unit splint dismantled and discarded or remade, but will the general public accept this as a possible consequence of his proposed therapy? I think not, especially when modern endodontics today boasts success ratios approaching 95 per cent.

I would like to offer these further comments on specific portions of Dr. Mézl's article. First, regarding Observation 5 about "Dentine Regeneration without Capping." All bets are off when dealing with developing teeth containing undifferentiated cells. We recognize the healing potential of traumatized developing teeth. The current method of treating these teeth, even in the presence of apical rarefaction (which, indeed, may be part of the developing organ), is to encourage continued root formation and apical closure.

With respect to Observation 6 about "Dentine Formation on the Outer Surface of Enamel," Dr. Mézl's own word — that "this process may be reversed on rare occasions" — need no further comment.

Observation 8 deals with "Dentine Formation on the Outer Surface of Carious Dentine outside the Pulp Chamber." Pulp polyps sometimes occur in young teeth with open gross carious lesions. It is obvious, here, that the pulp tissue has an extensive blood supply and may be suitable for pulpotomy as is any young tooth.

Observation 9 deals with "Dentine Formation in the Wall of a Pulp Abscess." Yet, formation of a complete calcified barrier around the abscess, as Dr. Mézl points out, does not happen in most of the cases.

Observation 10 deals with "Dentine Formation in Spontaneous Healing of Pulpitis." The patient's age is not mentioned in the accompanying Figure 10 but the legend identifies a pulp horn, thereby indicating a young tooth. Figure 11 purports to show formation of a complete barrier in the root separating gangrenous material from the living tissue. The events portrayed in Figures 10 and 11 are, in Dr. Mézl's own words, "a rare occurrence" and require no further comment.

The discussion at the end of Dr. Mézl's article betrays a lack of understanding of the status of modern endodontics. I agree that "studies of dentine formation are important because they disclose new ways of treating the pulp." But 11 illustrations do not constitute a 'study,' nor has Dr. Mézl disclosed any 'new' way of treating the pulp.

The further claim that "we have known that a wound in a pulp that is not inflamed can heal" is astonishing. Surely a pathologist of Dr. Mézl's stature cannot believe that a pulp or any living organ which has been wounded does not become inflamed. Indeed, inflammation is considered a requisite for healing. Perhaps Dr. Mézl meant that a wound inflicted on a pulp, which is not already inflamed, can heal. However, the

status of the pulp is a histopathological determination, not a clinical one.

The assertion that "an infected pulp can sometimes heal" leads to an unwarranted generalized clinical proposal, namely that "it is therefore illogical to remove a pyogenic membrane in which the healing is already under way." When and how can the practising dentist determine at the chairside whether healing is under way?

I do not quarrel with Dr. Mézl's longing for the day when dentists will no longer have to remove carious tissue and replace it with artificial substitutes. But his one and only illustration of Observation 8, where the pulp started to fill the cavity with new dentine, is hardly a convincing argument that nature may have a better way.

Dr. Mézl has admittedly described 'unusual examples.' I believe his article would be much more valuable if greater emphasis were laid on 'usual examples.'

In general, I am quite offended by the pseudo-clinical tone of the article, especially the misleading and unsubstantiated recommendation in the introductory résumé which suggests that "the removal, through pulpectomy or pulpotomy, of a pyogenic membrane in which healing is already in progress is therefore unwarranted."

*B. Sedlezky, DDS,
5845 Côte des Neiges,
Montreal 249, Que.*

Dr. Sedlezky's letter was referred to Dr. Mézl who replied as follows:

To the Editor:

In response to your invitation to comment on Dr. Sedlezky's letter, the article on Pathological Dentinogenesis does not propose or recommend any therapy. The discussion presents my personal belief that future endodontists will find new ways of treating the pulp. The sentence on page 254 means that a wound inflicted on a pulp which is not already inflamed can heal. I think that this is obvious from the text even without the word "already."

*Zdenek Mézl, MD, DDS,
Faculté de chirurgie dentaire,
Université de Montréal.*

Mistreatment of Laboratory Animals

To the Editor:

This refers to page 226 of the May Journal and the letter from Dr. J. D. Purves regarding the research report by Doctors Attalla and Calvert (page 76, February Journal).

I agree with Dr. Purves one hundred per cent. Never have I seen or read anything in the name of research so objectionable. In the name of common sense, what good can such brutality accomplish?

*E. M. Box, DDS, BSc (Dent),
150 Metcalfe St., Ottawa, Ont.*

The dental profession always constitutes a tiny segment of the total population and cannot afford to turn even this small voice into a chorus of conflicting opinions and programs that would fall unheard on the ears of the public. — Harold Hillenbrand, CDA-ADA Joint Session, July 21-22, 1969.

CFDE

What has it done for dentistry?

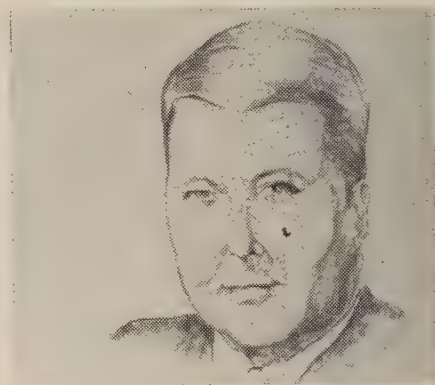


Dean Wesley J. Dunn

of the Faculty of Dentistry at the University of Western Ontario asks *"did you receive all the financial help you required?"*

Dr. Gérald Albert

who teaches paedodontics at the University of Montreal says *"we are going into an era where children's dentistry will be in great demand."*



Dr. George Zarb

is with the Department of Prosthodontics at the University of Toronto and says *"the general practitioner is not really aware of the benefits for dental education that CFDE is providing."*



Since 1964, the Canadian Fund for Dental Education has invested more than \$150,000 in dental education. The Journal asked Dean Wesley J. Dunn, of the Faculty of Dentistry at the University of Western Ontario, to interview two CFDE recipients who recently became dental teachers. Dr. George Zarb is with the Department of Prosthodontics, University of Toronto, and Dr. Gérald Albert teaches paedodontics at the University of Montreal. They describe their personal experience with comment on dental education needs for the seventies.

DUNN:

Do you think the Fund can do more than it has to assist dental education in Canada? What more can be done?

ZARB:

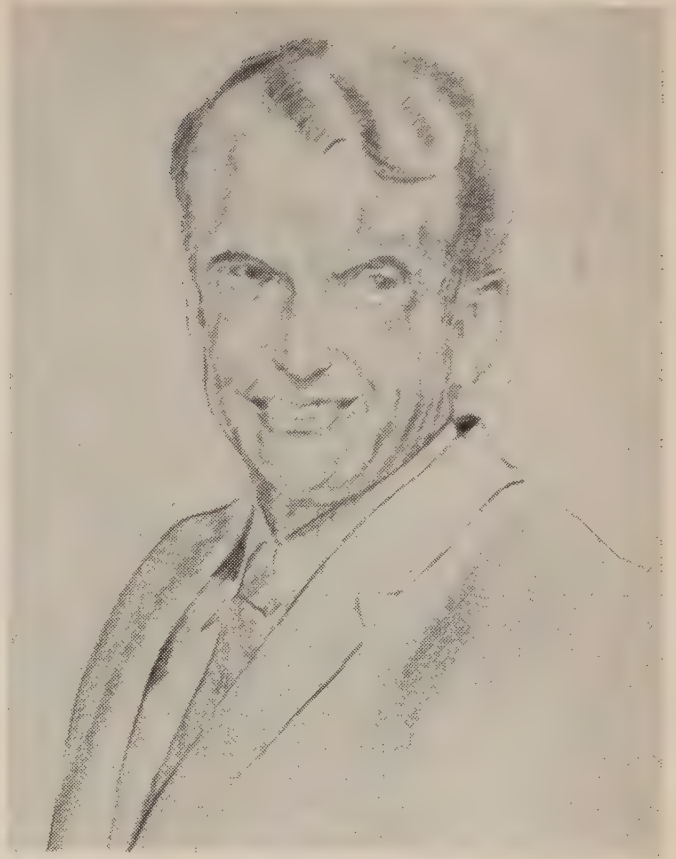
There's a desperate need, I think, to accelerate the funding of more graduate personnel in the field of dentistry in Canada. Looking over the appointments — new appointments made in various dental schools all over the country, I notice a large part of these new appointments come from overseas. This must indict the planning or the availability of funds for graduate education of Canadian dentists. We need to send more people away. We need to have better people staffing our schools so that the image of dentistry held up to the undergraduate is one of dedication to teaching, a dedication and idealism that began soon after graduation, if not before. I also think the general practitioner is not really aware of the benefits for dental education that CFDE is providing. Possibly one good way to change this is to make sure, when extramural programs are developed by schools, if chaps who are lecturing on these programs are recipients of CFDE grants, they should publicize this. Your investment is reaping some sort of reward.

ALBERT:

You're right. Now let me ask what about the continuing education of the dentist? If you send more dentists out to learn more about their profession — you can have programs of continuing education that are developed by the different universities. These dentists, the ones CFDE is supporting right now (aren't there more than thirty?), they will be the teachers for this continuing education and your general practitioner will benefit from it. The undergraduate, the graduate and also the general practitioner will be involved in this education and these are the teachers that are needed.

ZARB:

Yes, we need more teachers. And we need more money. Money should come from the dentists themselves; so they have to feel they have a vested interest in this.

**DUNN:**

Let's go back a bit. Each of you received grants from the Fund, and maybe even from other sources. Did you receive all the financial support you required?

ALBERT:

I must say the Fund got me out of a bind. First, a government fund was refused to me in the first year. Then the funds granted to me by the University of Montreal were taking quite a long time to get to me at the University of Indiana. And in the States you have to pay in advance of starting your courses. If you have no money, you're in bad shape.

ZARB:

I had to borrow money while I was in Ohio. CFDE provided enough to get started and then, you figure, if we run out (Zarb's wife was a student at the time; they had one child) you simply borrow the money and this is exactly what happened. In the States you are paying out-of-state fees and they are very expensive. So was the cost of housing. Even the cost of babysitting was high.

DUNN:

What about your wife, Gérald?

ALBERT:

She was working so that helped our situation a little bit. CFDE gave me what I requested. I think I would have gone into financial difficulties if it hadn't.

DUNN:

Would you do it all over again?

ALBERT:

Yes. While I was at the University of Montreal, I had counselling from Dean Lussier and Dr. Perreault and I decided to take paedodontics. I wanted to have more knowledge concerning dentistry for children so I made my application for graduate studies, was accepted by the University of Ohio and left. I came back with many ideas. You always think you are going to revolutionize dentistry, but your illusions wear off fast and then you get down to the real problems. In Quebec there is a shortage of paedodontists. And as you know many changes, like medicare, are taking place in total health care. We are going into an era where children's dentistry will be in great demand. As far as the profession is concerned, we wish this dentistry will be the best possible. This is why I want to give the best knowledge to students so they'll be prepared, not as paedodontists, but as general practitioners who can treat children well. Also, hospital dentistry is becoming very active in Quebec. It is very exciting.

ZARB:

It seems to me that one of the main reasons why a young man should be attracted into academic dentistry is because we have reached a stage in the development of dentistry where we can no longer fall back upon the conviction that in order to be a good teacher you have to have been in practice for a number of years. I think this conviction has prevailed for a long time. It still prevails today in many institutions.

DUNN:

Gérald, do you think we in Canada are holding our own in your particular field of paedodontics? Or do we still have to look to the United States for the kind of leadership that has been given to this specialty?

ALBERT:

This is a very critical question and brings up the question of where the CFDE can help with support. The fact is that our students finish clinical work around May. After their exams they have to run around and find money for the next year which starts in September. Many of them stop thinking about dentistry. I think the schools may have to develop 11 month courses so that this summer period will be devoted to dentistry and not be wasted. There will be other work—either research or clinical work. I think that here again CFDE will be able to help.

DUNN:

If our teachers are going to perform meaningful research they are going to write articles for publication. They need time to do this. Therefore to teach 11 months, I suspect is going to be a little difficult; that means more faculty will be needed. I also feel there will be a need for greater financial resources for students because many now depend on the money they earn in the summertime to make their next year possible.



ZARB:

I know CFDE is playing an indispensable role in the development of dental educators in Canada. I hope this can be maintained. It's compensating for the myopia that has been exhibited by dental educators in the past and I'd like to see two things changed . . . as far as CFDE is concerned. It seems to me having a dean of a particular dental school recommend a specific individual, almost contracting the man to come back to that institution, puts an unnecessary demand and responsibility on that dean. I think CFDE should consider interviewing applicants for fellowships rather than just review their application forms. No one can forecast if he will have an opening two or three years from now, nor can one forecast if he wants to go back to a school two years from now.

DUNN:

I agree. In Ontario we are operating now on the formula financing system which means that there is a certain fixed number of dollars available to any unit within the university and unless you have the dollars—which you do not two years

ahead—you find great difficulty in making any such commitments for two years ahead. I think the day of being able to commit yourself two years in advance is pretty well over as far as Ontario is concerned. I am sure the Fund is aware of these developments. Certainly, on the point of awarding fellowships, regulations can be modified to improve conditions.

ALBERT:

Being from a province that has certain characteristics different from the rest of Canada, we tend to be a little more individual than the others. This question of receiving funds from a national organization stimulates your views about the other people in Canada. I am now more concerned with the national aspect of dentistry than before I left. Not merely due to my experience in the States, but this is part of it. I see George (Zarb) here. He's from another province and he's doing very well. He has his ideas on dentistry and I'm getting to learn them and this is, I think, a very valuable aspect for dentistry and for my own country.

DUNN:

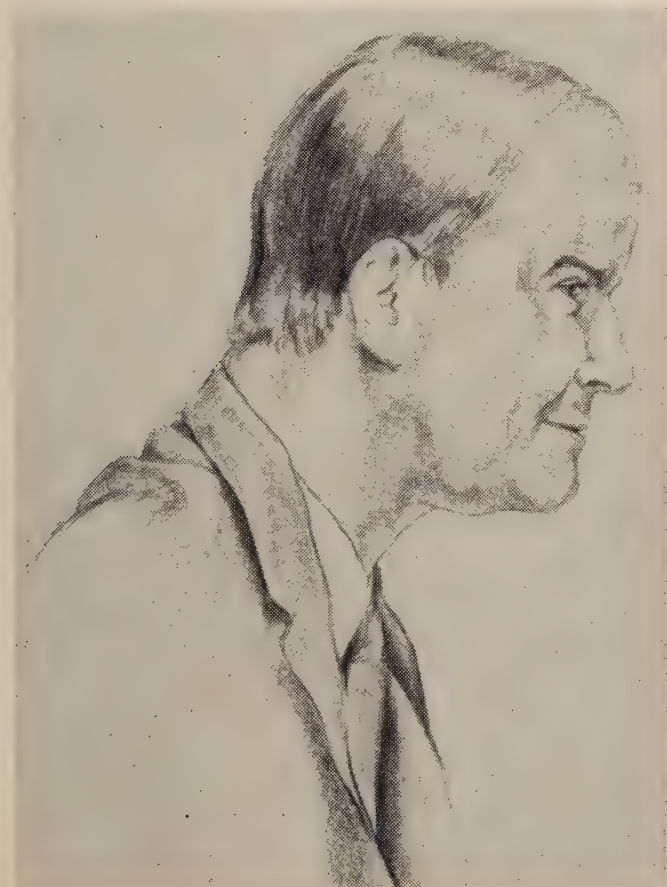
Well I'm going to ask you one last question. Assuming the need for support of future dental teachers and researchers is met, now this is a big assumption, but we will assume that this is so, where would the next thrust of CFDE activity in your judgement be most appropriately directed? In other words, if the Fund can provide for the kind of graduate work which you people have engaged in and it has additional resources beyond those necessary for that role—now I admit that this is a little speculative at this point and time—where do you think the fund's next thrust should be?

ZARB:

Two different directions come to mind. The first one, and I think Gerry (Albert) referred to this earlier, is postgraduate education for the general practitioner.

DUNN:

Let's straighten out the terms here for a second, George. Now postgraduate education—do you mean continuing education of the non-credit variety?



ZARB:

Correct. Continuing education and secondly, support for research and whatever other projects individual schools might be undertaking.

DUNN:

When you say research, are you thinking of research as it relates to dental education or are you thinking of research of a fundamental basic science?

ZARB:

It can take really either trend or variations on this. Obviously, this is going to be related to the amount of funds available. And research on dental education as a joint effort by all Canadian schools can be undertaken and I think the funding for a project like this can very nicely come from CFDE.

DUNN:

It seems to me that with organizations such as the Medical Research Council of Canada and the Department of National Health and Welfare, we appear able to get adequate resources for our basic science type of study. Now your eyebrow is raised when I say that, but there seems to me to be a lot to be said for doing something in dental education, curriculum development, student assessment—I still think we tend to assess students on a Victorian basis. It goes back a long way. We lock-step them and we give them numerical grades and we don't really know what we are talking about many times. I just wonder about your views on this. Again, I am not trying to put words in your mouth, but do you think that the CFDE, because it in a way is primarily pointed to education, should be thinking perhaps more of research in this area than maybe in something dealing with physiology or biochemistry which seem to have certain vehicles for support?

ZARB:

Certainly. The research in dental education would, I think be primary, but I don't

think you can overlook research that is going on in schools of a more basic nature which can be possibly carried out by students on an intramural basis—the sort of funding which you are giving to schools right now—the \$1,000 a year for whatever needs a dean might have. I think this sum can be used in even greater amounts for little projects that students are developing, whether related to a basic concept or whether related to education itself. I think this is worthwhile. Maybe this money could be put to use for students to attend meetings or conferences—I mean with other students from international bodies and bring back their ideas to the institution. Maybe this money could be used to set up a Canadian Association of Dental Students and have them meet regularly and mix their ideas about particular educational set-ups and bring back their ideas to their own institutions. I think these are worthwhile enterprises that CFDE could be involved in.

DUNN:

Well, I think we must end our discussion. I believe you both are dramatic evidence of the great need for the profession to support people in programs such as you have experienced. Without this kind of support it is very likely that one of you might well have had to discontinue so I don't think the importance of CFDE support can be understated. I think you see in this Fund a continuing need to support future dental teachers and researchers and hygienists. And if the day comes when we can find adequate resources to do that I see each of you has identified other roles for the Canadian Fund for Dental Education particularly in continuing education, in sponsoring research not only in basic science areas but in dental education itself. I believe you both know the Fund will continue to try to meet the needs of dental education now and in the future, that this is the vision CFDE has held and will hold. On behalf of the trustees of the Fund, I sincerely thank the both of you.

Quelles sont les réalisations du FCED dans le domaine de l'art dentaire?

Depuis 1964 le Fonds canadien pour l'enseignement dentaire a investi plus de \$150,000 en enseignement dentaire. Le Journal a demandé au doyen Wesley J. Dunn, de la faculté de chirurgie dentaire de l'université Western Ontario, d'interviewer deux récipiendaires du FCED qui, dernièrement, ont embrassé la carrière d'enseignant. Le Dr George Zarb est attaché au Département de prothèse de l'université de Toronto, et le Dr Gérald Albert enseigne la pédodontie à l'université de Montréal. Ils relatent leur expérience personnelle et donnent leur opinion sur les besoins de l'enseignement dentaire pour les années 70.

DUNN:

Pensez-vous que le Fonds puisse faire plus qu'il ne l'a fait jusqu'à présent pour aider l'enseignement dentaire au Canada? Que peut-il faire de plus?

ZARB:

Je pense qu'il existe un besoin urgent d'accélérer la distribution des fonds afin de développer un personnel gradué plus nombreux dans le domaine de l'art dentaire au Canada. En jetant un coup d'œil sur les nouveaux engagements qui sont faits dans plusieurs écoles dentaires à travers tout le pays, je remarque qu'une grande proportion de gens nouvellement engagés viennent d'outre-mer. Ce fait met en accusation la planification ou la disponibilité des fonds pour l'enseignement

post-universitaire des dentistes canadiens. Nous devons encourager plus de gens à aller se perfectionner. Nous avons besoin d'un personnel plus compétent dans nos facultés, de sorte que l'image de la dentisterie présentée à l'étudiant en soit une de dévouement à l'enseignement, un dévouement et un idéalisme acquis peu après avoir reçu le diplôme, sinon avant. Je pense aussi que le praticien ne se rend vraiment pas compte combien l'enseignement dentaire profite de l'aide que lui fournit le FCED. Pour changer cet état de chose il serait peut-être bon que, lorsque des récipiendaires de subventions du FCED donnent des conférences en dehors de l'université, les facultés fassent de sorte que le fait qu'ils ont reçu l'appui du FCED reçoive la plus grande publicité. On recueille ainsi le fruit de son placement.

**ALBERT:**

Vous avez raison. Et parlons maintenant de l'éducation permanente du dentiste. Si on envoie plus de dentistes se perfectionner, les universités pourront alors élaborer des programmes d'éducation permanente. Ces dentistes, ceux que le FCED supporte présentement (ne sont-ils que trente?) seront les professeurs pour cette éducation permanente et l'omnipraticien pourra en tirer profit. L'étudiant, l'universitaire et le praticien seront donc engagés dans cette éducation. Voilà pourquoi nous avons besoin de ces professeurs!

ZARB:

Oui, il nous faut plus de professeurs. Et il nous faut aussi plus d'argent. Cet argent devrait venir des dentistes eux-mêmes; ils doivent donc sentir qu'ils ont un intérêt acquis dans ce projet.

DUNN:

Retournons un peu en arrière. Chacun de vous a reçu des subventions du Fonds et peut-être aussi d'autres sources. Avez-vous reçu tout l'appui financier dont vous aviez besoin?

ALBERT:

Je dois dire que le Fonds m'a tiré d'une impasse. Tout d'abord, la première année, on m'avait refusé une bourse du gouvernement et après cela, la bourse qui m'avait été octroyée par l'Université de Montréal prenait pas mal de temps à me parvenir à l'université de l'Indiana. Et aux Etats-Unis, vous devez payer votre cours à

l'avance. Si vous n'avez pas d'argent, vous êtes dans un mauvais pétrin.

ZARB:

J'ai dû emprunter de l'argent pendant mon stage dans l'Ohio. Le FCED m'a fourni assez d'argent pour commencer, mais après, je me suis dit que si nous étions jamais à court d'argent (la femme de Zarb était étudiante à ce moment-là et ils avaient un enfant) nous devrions tout simplement emprunter, et c'est exactement ce qui est arrivé. Aux Etats-Unis, le coût des études est plus élevé lorsqu'on n'est pas originaire de l'état. Le loyer était cher également. Même les frais pour les services d'une gardienne étaient très élevés.

DUNN:

Et votre femme, Gérald?

ALBERT:

Elle travaillait et ceci nous a aidé un peu. Le FCED m'octroya ce que je lui avais demandé. Je pense que j'aurais eu des problèmes d'ordre financier s'il ne l'avait pas fait.

DUNN:

Est-ce que vous recommenceriez à nouveau cette expérience?

ALBERT:

Oui. Lorsque j'étais à l'Université de Montréal, les conseils du doyen Lussier et du Dr Perreault m'ont inspiré et j'ai alors décidé de me diriger vers la pédodontie. Je voulais en connaître plus long sur la dentisterie pour les enfants, aussi ai-je fait ma demande à l'université de l'Ohio pour des études graduées en ce domaine, demande qui fut acceptée, et je suis parti. Je suis revenu avec un grand nombre d'idées en tête. On pense toujours qu'on va révolutionner la dentisterie, mais les illusions tombent vite, et alors on fait face aux véritables problèmes. Au Québec nous manquons de pédodontistes. Et comme vous le savez, de nombreux changements, comme l'assurance-maladie, ont lieu dans le domaine des soins sanitaires complets. Nous entrons dans une époque où la dentisterie pour enfants sera très demandée et en ce qui concerne la

profession, nous souhaitons que cette dentisterie soit la meilleure possible. C'est pourquoi je veux donner aux étudiants la meilleure préparation possible, afin qu'ils puissent soigner les enfants efficacement, non pas comme pédodontistes, mais comme omnipraticiens. Les soins dentaires donnés à l'hôpital sont aussi de plus en plus demandés au Québec. Tout cela me passionne.

ZARB:

Il me semble qu'une des principales raisons pouvant attirer un jeune homme vers une carrière académique en art dentaire, réside dans le fait que nous avons atteint un point dans le développement de l'art dentaire où nous ne pouvons plus nous rabattre sur la croyance que pour être bon enseignant, il faut avoir exercé pendant de nombreuses années. Je pense que cette croyance a prévalu pendant longtemps, et qu'elle prévaut encore aujourd'hui dans certaines institutions.

DUNN:

Pensez-vous, Gérald, que nous, au Canada, savons nous débrouiller comme il faut dans votre domaine particulier, la pédodontie? Ou devons-nous encore chercher du côté des Etats-Unis la direction qui a été donnée à cette spécialisation?

ALBERT:

C'est une question délicate qui nous amène à nous demander où le FCED peut donner son appui. En fait, les étudiants terminent leur travail en clinique aux alentours du mois de mai. Après leurs examens ils doivent se dépêcher de trouver de l'argent pour l'année académique suivante qui commence en septembre. Bon nombre d'entre eux ne pensent même plus à la dentisterie. Je pense que les facultés devront mettre sur pied des cours d'une durée de onze mois, afin que cette période estivale soit consacrée à la dentisterie, et non gaspillée comme elle l'est présentement. Il y aurait d'autres travaux, soit en recherche, soit en clinique. Je pense que là encore le FCED sera en mesure de nous aider.

DUNN:

Si nos professeurs effectuent des recherches qui en valent vraiment la peine,

ils vont écrire des articles qu'ils voudront publier. Il faut avoir du temps pour un tel travail. Aussi je me doute qu'il sera un peu difficile pour eux d'enseigner pendant onze mois; ce qui signifie qu'il faudra un personnel enseignant accru. Je crois aussi qu'il faudra donner une plus grande aide financière aux étudiants, parce qu'actuellement beaucoup d'entre eux comptent sur l'argent gagné pendant la période des vacances pour défrayer le coût de leur prochaine année académique.

ZARB:

Je sais que le FCED joue un rôle indispensable dans le développement d'éducateurs dentaires au Canada et j'espère que cette aide va continuer. Ceci compense pour la myopie dont ont fait preuve des éducateurs dentaires dans le passé. J'aimerais cependant voir deux changements s'effectuer . . . en ce qui concerne le FCED. Il me semble que le fait qu'un individu soit recommandé par le doyen d'une faculté dentaire particulière, obligeant presque cet individu à revenir à cette institution, fait peser sur ce doyen une exigence et une responsabilité inutiles. Je pense que le FCED devrait songer à interviewer lui-même les postulants pour des bourses plutôt que d'examiner simplement leurs demandes. Personne ne peut prévoir si un poste lui sera ouvert d'ici deux ou trois ans, ni prévoir s'il veut retourner à une faculté d'ici deux ans.

DUNN:

Je suis d'accord. En Ontario nous fonctionnons maintenant selon le système de



financement par demandes, ce qui signifie qu'il y a un certain montant d'argent disponible pour chaque unité faisant partie de l'université, et à moins d'avoir cet argent — ce que nous n'avons pas deux ans à l'avance — il est très difficile de prendre de tels engagements financiers qui nous lieraient deux ans plus tard. Je pense que l'époque où l'on était capable de s'engager deux ans à l'avance est pas mal révolue, en ce qui concerne l'Ontario. Je pense que le Fonds n'ignore pas ces développements. Les règles peuvent certainement être modifiées afin d'améliorer les conditions qui déterminent l'attribution des bourses.

ALBERT:

Venant d'une province dont certaines caractéristiques la diffèrent du reste du Canada, nous avons tendance à être un peu plus individualistes que les autres. Le fait de recevoir des fonds d'une organisation nationale donne lieu à de nouvelles pensées sur le reste du Canada. Je suis beaucoup plus intéressé maintenant par l'aspect national de l'art dentaire que je ne l'étais avant de partir; et ce n'est pas seulement à cause de mon expérience aux Etats-Unis, bien que ceci en fasse partie. Je vois George (Zarb) ici présent. Il vient d'une autre province, et il se débrouille très bien. Il a ses idées sur la dentisterie et je suis en train de les apprendre, et ceci, je crois, est un aspect très précieux pour la dentisterie et pour mon pays.

DUNN:

Bon, alors je vais vous demander une dernière question. En supposant que les besoins financiers des professeurs et des chercheurs soient satisfaits pour l'avenir, j'admets que c'est une grosse supposition, mais faisons-la quand même, où serait-il le plus à propos, selon vous, de diriger les efforts du FCED? En d'autres mots, si le Fonds peut produire des carrières universitaires comme celles dans lesquelles vous êtes vous-mêmes engagés et qu'il existe des capitaux supplémentaires qui dépassent les besoins de cette première fonction—bon, j'admets ici que nous spéculons un peu—où devraient se concentrer les prochains efforts du Fonds?

ZARB:

Deux orientations différentes me viennent à l'esprit. La première et je crois que Gerry (Albert) y a fait allusion plus tôt, est l'éducation permanente pour l'omnipraticien.

DUNN:

George, il faudrait ici nous mettre d'accord sur les termes. Lorsque vous parlez d'éducation permanente, faites-vous allusion à l'éducation permanente non-créditée?

ZARB:

C'est exactement cela. L'éducation permanente, et, en second lieu, l'appui à la recherche et aux autres projets que pourraient entreprendre les différentes facultés dentaires.

DUNN:

Quand vous parlez de recherche, pensez-vous à la recherche appliquée à l'enseignement dentaire, ou pensez-vous à la recherche fondamentale dans les sciences de base?

ZARB:

Cette recherche peut vraiment prendre l'une ou l'autre orientation. Evidemment, ces projets seront en rapport avec le montant d'argent disponible. Et la recherche en enseignement dentaire peut être entreprise comme un effort conjoint de toutes les facultés canadiennes, et je crois que le financement pour un tel projet peut très bien venir du FCED.

DUNN:

Il me semble que par le truchement d'organismes tels que le Conseil de la recherche médicale du Canada et le Ministère national de la Santé et du Bien-être, nous sommes à même de recevoir des ressources financières suffisantes pour des recherches dans les sciences de base. Vous fronchez les sourcils lorsque je dis cela, mais il me semble qu'il y a beaucoup à dire sur ce qu'on pourrait faire en enseignement dentaire, pour le développement des programmes d'études, et l'évaluation de l'étudiant. Je persiste à croire que nous tendons à évaluer les étudiants selon une norme victorienne. Cela retourne loin



en arrière. Nous les faisons marcher au pas, nous leur donnons des notes, et la plupart du temps, nous ne savons pas de quoi nous parlons. Je me demande quelles sont vos opinions sur ce sujet. Encore une fois je n'essaie pas de vous mettre les mots dans la bouche, mais ne pensez-vous pas que le FCED, parce que dans un sens, il s'occupe d'abord d'enseignement, devrait penser à la recherche dans ce domaine plutôt que de s'occuper de physiologie ou de biochimie, domaines qui semblent avoir certaines ressources financières à leur appui.

ZARB:

Certainement. Je crois qu'il est de la première importance d'effectuer des recherches en enseignement dentaire, mais il ne faut pas oublier la recherche d'un caractère plus simple effectuée dans les facultés par les étudiants, à l'intérieur de leur programme—avec le support financier qui est accordé aux écoles en ce moment—le \$1,000 annuel accordé au doyen qui peut en disposer librement. Je pense que de plus grandes sommes pourraient être utilisées pour financer de petits projets que les étudiants sont à développer, que ces projets soient reliés à un concept de base ou à l'enseignement proprement dit. Je crois que cela en vaut

la peine. Peut-être que cet argent pourrait être employé pour permettre aux étudiants d'assister à des réunions ou à des conférences—je pense ici à des réunions avec des étudiants appartenant à des organismes internationaux. Nos étudiants en rapporteraient des idées nouvelles. Peut-être aussi que cet argent pourrait être utilisé pour mettre sur pied une Association canadienne des étudiants dentaires qui leur permettrait de se rencontrer régulièrement, d'échanger leurs idées sur des projets d'enseignement particuliers, et de faire part de ces idées à leurs propres institutions. Je pense que ce sont là des projets avantageux dans lesquels le FCED pourrait s'engager.

DUNN:

Eh bien, je pense qu'il nous faut maintenant terminer notre discussion. Vous représentez tous deux une illustration dramatique du grand besoin qui existe de voir notre profession donner son appui à des programmes semblables à ceux auxquels vous avez participé. Sans cet appui, il est très probable que l'un d'entre vous aurait bien dû interrompre ses études; je ne crois donc pas que l'importance de l'aide financière que donne le FCED peut être exagérée. Je sais que vous êtes d'avis que le Fonds devrait continuer à assister les professeurs et les chercheurs de demain. Et si le jour arrive où nous pourrions trouver des moyens suffisants pour le faire, je vois que chacun d'entre vous a déjà établi d'autres rôles que pourrait jouer le Fonds canadien pour l'enseignement dentaire, particulièrement dans l'éducation permanente, en commanditant des recherches, non seulement dans le domaine des sciences de base, mais aussi dans l'enseignement dentaire même. Je crois que vous savez tous deux que le Fonds poursuivra ses efforts afin de pourvoir aux besoins de l'enseignement dentaire. Voilà pourquoi le FCED continuera à voir loin dans l'avenir. Au nom des administrateurs du Fonds, je vous remercie.

**Convention adopts major resolutions
on education and prepayment**

The CDA Board of Governors considered extensive by-law revisions, authorized an enlarged Council on Education and adopted important resolutions on dental prepayment at the annual meeting in Montreal.

After extensive debate of an Ontario Dental Association decision to reduce its grant to the CDA, the Board defeated a resolution which asked the Executive Council to consider changing the basis of representation on the Board to reflect the amount of corporate member grants.

The Board then approved an Executive Council-recommended budget for 1970 showing income of \$322,600, expense of \$394,400, and an excess of expense over income of \$71,800.

This year's national convention also marked the hundredth anniversary of organized dentistry in Quebec.

Dental Association. As a result, the council will better reflect Canada's geographic and linguistic characteristics. Its members will include full-time and part-time teachers; senior academic administrators; dentists not directly involved in dental education; dentists or others familiar with the work of the ACFD, NDEB and RCD(C); and dentists or others whose background and interest are appropriate to the council's work.

The governors went on to approve a recommendation that the CDA continue to accredit programs in dental education as well as programs of education and training for dental auxiliaries. They also concurred with a corresponding by-law amendment authorizing the Council on Education "to accredit undergraduate, postgraduate and graduate programs in dentistry and dental hygiene, and to peri-

Dental Education

The Board voted to expand the Council on Education immediately from six to nine members. These will be selected from a pool of names derived from the Association of Canadian Faculties of Dentistry, the National Dental Examining Board of Canada, the Royal College of Dentists of Canada and the Canadian

Registration

Registration at the national convention in Montreal reached 1,174. Of those who registered, 690 were CDA members, 54 dentists were from abroad, 35 were dental hygienists, 63 were dental assistants and 84 were exhibitors. There were also 248 wives registered.

odically review such accreditation." In adopting these resolutions, the Board was of the opinion that accreditation at the national level permits interprovincial and international recognition but does not preclude accreditation at the provincial level.

In the matter of standards, the Board approved minimum requirements for the approval of postgraduate courses leading to a qualification in an area of specialization recognized by the CDA.

A further resolution calling for income tax exemption of tuition fees for courses sponsored by a university or hospital, required text books and instruments, and travelling and living expenses was referred to the Executive Council's Subcommittee on Taxation.

Prepayment Resolutions

Two major resolutions on prepayment were adopted after lengthy reference committee hearings. The governors reaffirmed their approval of the principle of prepayment for dental services. In addition, they gave support to the principle of participation in profession-sponsored prepayment plans.

Dental Auxiliaries

The governors again rejected a resolution on the delegation of duties to dental auxiliaries. The defeated resolution reads:

"*Resolved*, that it be affirmed by the Canadian Dental Association, as a fundamental principle, that it is the dentist and the dentist alone who must be responsible for the standards and quality of dental treatment received by his patients, and be it further

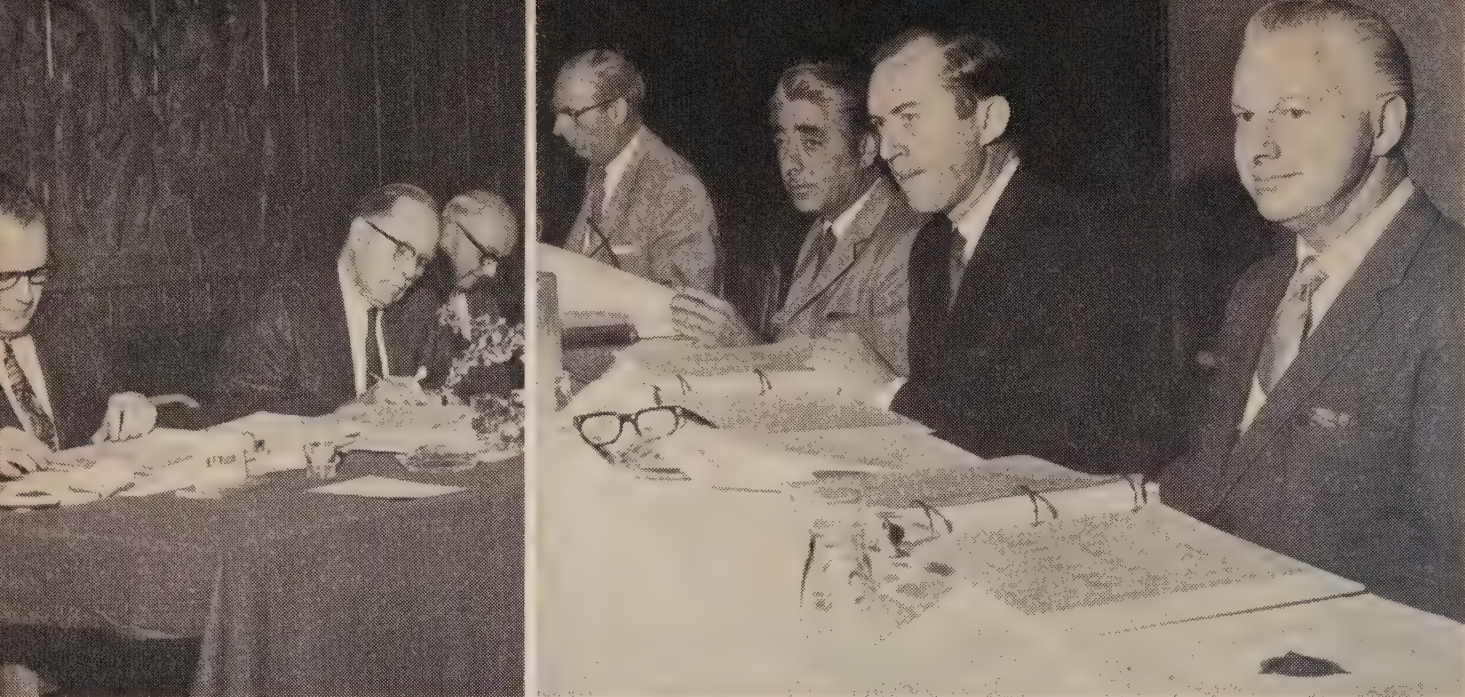
"*Resolved*, that in assuming this responsibility it is the right of a dentist, within the regulatory jurisdiction of the licensing authority by which he is licensed, to delegate to persons over whom he exerts effective supervision and control such duties as do not require for their performance the professional knowledge and skill of the dentist, and it be further

"*Resolved*, that it be respectfully recommended to provincial licensing authorities to extend every effort to create such legal environment for the practice of dentistry that will make possible the effective implementation of the above principle, and be it further

"*Resolved*, that as a fundamental requirement for the statute and regula-



Opening session of the Board of Governors was on Monday morning July 7. President Brouillet thanks Mgr. André Cimichella who delivered the invocation.



The governors spent busy sessions Monday, Tuesday and Wednesday in the Duluth-MacKenzie Room of the Queen Elizabeth Hotel. Left: Past President W. P. Munsie, Treasurer G. M. Dewis and outgoing President Henri Brouillet. Right: H. T. Oliver and Antoine Raymond, Montreal; W. H. Feasby, London; D. L. Rife, Toronto.

tions under which dentistry is practised, the principle of the ultimate responsibility of the dentist be clearly and unequivocally enunciated."

Also tabled until next year was a resolution to rename the Auxiliary Services Committee as the 'Allied Services Committee' and proposing new terms of reference for this committee.

Specialization

A series of resolutions affecting specialties and sections was tabled by the governors.

One resolution asked that the by-laws be amended so as to limit CDA sections to the national organizations of the recognized specialties, and limit voting privileges in the sections to specialists.

Another recommendation proposed that the Canadian Academy of Restorative Dentistry and the Canadian Society of Public Health Dentists retain their section status on a provisional basis for a maximum of three years pending further Board action on applications for the recognition of restorative dentistry and dental public health as specialties.

The governors also agreed to postpone



The reference committee dealing with the report of the Aims and Objectives Conference laboured into the late hours of Monday night.

indefinitely a tentative grouping of specialty areas. Additionally, they tabled a proposal to terminate the current moratorium on the recognition of further specialties and sections.

Hospital Services

In other actions the Board:

- Resolved that the CDA continue to approve hospital dental services and facilities across Canada on request from individual hospitals and in consultation with provincial hospital services committees. Continued approval will be subject to reassessment of an 'approved' hospital every five years.

- Recommended that the Dental Division, Department of National Health and Welfare, assist dental divisions of provincial health departments in securing data on dental conditions of the aged.

- Asked dental schools to present refresher courses on treatment of the aged.

- Urged that dental societies invite clinicians to discuss problems related to geriatric dentistry.

- Authorized the Council on Public Health to distribute short informative dental health articles to Canadian newspapers.

- Reiterated its support for fluoridation.

- Approved an updated statement on the relationship of carbohydrates to dental caries.

- Authorized the Council on Constitution and By-laws to undertake a revision and condensation of the Code of Ethics.

Surgident Representative Dies at Convention

The death of Thomas Early, July 10, struck a sad note at the national convention. A popular representative in eastern Canada and the New England States for Surgident of Los Angeles, Mr. Early was well known to many Canadian dentists through his frequent demonstrations of new materials for crown and bridge prosthodontics.

Mr. Early, whose home was in Sudbury, Massachusetts, leaves a wife and five children. The Journal expresses sincere sympathy to Mrs. Early and the family.

- Concurred with a recommendation that the treasurer continue to be an appointive official named by the Executive Council.

- Agreed to the election of a chairman of the Board of Governors. P. S. Christie, Halifax, was elected to this position.

- Approved resolutions which transform the Council on Journalism into a standing committee of the Executive Council and raise the subscription price of the Journal from \$7 to \$10 effective January 1970.

- Asked the Council on Legislation to explore the most effective means to mount a political action program and so create a national lobby for dentistry.



Other reference committees tackled pressing issues in dental education and prepayment.

- Agreed to a transfer of section status from the Canadian Society of Dentistry for Children to the Canadian Academy of Paedodontics.

- Approved proposals to change the site of the 1971 national convention from Windsor to Ottawa and hold the 1974 convention at Windsor.

- Authorized selection, by the Executive Council, of a CDA delegate to accompany a team which is to survey educational and health needs in certain British Commonwealth Caribbean Islands later this year. This survey will be conducted under the auspices of the Canadian Executive Service Overseas (CESO).

MacLean Installed as President Spence Chosen President-Elect

H. R. MacLean, Edmonton, was installed by Gustave Ratté as 50th president of the Canadian Dental Association. He succeeds Henri Brouillet of Montreal.

Dr. MacLean, who is dean of the Faculty of Dentistry, University of Alberta, was born at Finch, Ontario, and graduated from the University of Alberta in 1928. Two years later he opened a private practice in Edmonton. He joined Alberta's faculty in 1935, rising successively to head of the Department of Restorative Dentistry in 1937, professor of restorative dentistry in 1946, head of the faculty's Section of Oral Diagnosis in 1948, and becoming dean in 1958. Always closely identified with dental education, Dr. MacLean served the former Dominion Dental Council 1938-52, the Associate Committee on Dental Research of the National Research Council 1946-59, the National Dental Examining Board of Canada 1953-68 (latterly as president), and the Executive Council of the American Association of Dental Schools 1961-67. A past president of his local and provincial dental associations, Dr. MacLean has represented the Alberta Dental Association on the CDA Board of Governors since 1963 and was elected to the CDA Executive Council in 1965. He is a fellow of the American College of Dentists, a past president of the International College of Dentists (Canadian Section), and an hon-

orary member of the Canadian Academy of Restorative Dentistry.

A Toronto orthodontist, W. J. Spence, was chosen president-elect. Dr. Spence was elected to the CDA Board of Governors and Executive Council in 1967. He is a fellow of the International College of Dentists and a past president of the Toronto Orthodontic Study Club and the Ontario Dental Association.

Executive Council

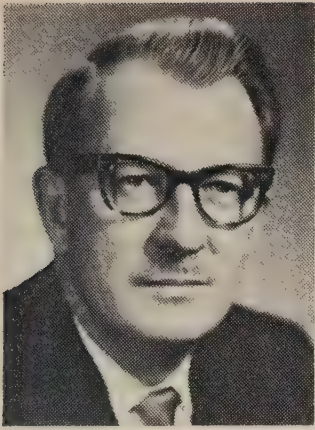
Re-elected as members of the Executive Council were A. L. MacIsaac, Charlottetown, and Louis Bernier, Quebec City. Three candidates competed for the two other executive positions. L. E. English, Kamloops, BC, and J. E. Abra, Winnipeg, were elected, narrowly defeating E. J. Siegel, Toronto.

Chairmen

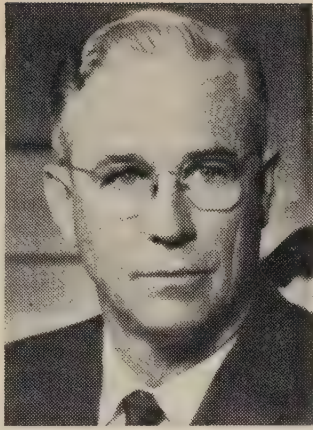
Elected as chairmen of councils and committees were: H. R. MacLean, Edmonton, Executive Council; Rémy Langlois, Quebec City, Council on Constitution and By-laws; W. J. Dunn, London, Council on Education; R. M. LeBlanc, Montreal, Council on Ethics; M. M. Derrick, Ottawa, Council on Legislation; K. W. Davey, Toronto, Council on Public Health; L. E. Francis, Montreal, Council on Research; E. F. Allison, Calgary, Auxiliary Services Committee; D. C. Way, London, Commercial Insurance Committee; J. P. Beattie, Winnipeg, 1970 Convention Committee; P. E. Currie, London, Dental Services Committee; J. Kreutzer, Toronto, Headquarters Property Committee; P. T. Smylski, Toronto, Hospital Services Committee; W. J. Spence, Toronto, Nominations Committee; and O. J. Yule, Toronto, Specialists and Specialization Committee.

Honorary Member

Honorary membership in the CDA was conferred on W. Gordon Leahy, Montreal, a former professor and director of the McGill University Dental Clinic from



W. J. Spence
President-elect



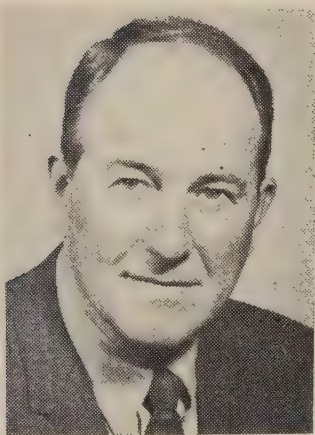
L. E. English



Louis Bernier



J. E. Abra



A. L. MacIsaac



Henri Brouillet
Past president



H. R. MacLean
President

The Executive Council

1924 to 1956. Dr. Leahy's counsel, encouragement, sympathetic understanding and friendship are well remembered by many generations of McGill graduates.

Distinguished guests included: H. A. McGuirl of Providence, Rhode Island, president of the American Dental Asso-

ciation; L. E. Balding, of Hove, Sussex, England, past president of the British Dental Association; Germain Bigué of Val d'Or, Que., president of the Quebec Medical Association; and D. W. Gullett of Toronto who represented the Fédération Dentaire Internationale.

Board Receives By-law Proposals

Jurisdictions of respective national and provincial dental organizations; the status, rights and duties of corporate members; composition, power and duties of the Board of Governors and Executive Council; duties of elective officers and appointive officials; and the composition and status of CDA councils, committees and sections again received detailed scrutiny when a reference committee of the Board of Governors studied proposed by-law changes emanating from the February 24-25 CDA Aims and Objectives Conference. The conference, held at Board direction, had brought together delegates from the CDA's 10 provincial corporate members and the Association's Executive Council for an in-depth examination of the national association's aims and objectives.

Appropriate by-law amendments will now be drafted for presentation at the 1970 Board of Governors meeting or earlier. The proposed amendments and the report of the reference committee will be submitted to CDA corporate members, councils and committees for further study prior to the 1970 Board meeting in Winnipeg.

The following are some of the salient changes advocated by the reference committee in Montreal:

1. Individual members of the CDA shall consist of persons who are registered as members of corporate members and who have been admitted to membership in the Association upon the recommendation of the governing bodies of corporate members.

2. An individual member under disciplinary sentence of suspension by any licensing body shall not hold office of any kind in the CDA or participate in its proceedings.

3. Associate members shall not have voting privileges, shall not be chairmen of councils or committees, but may serve as committee members except on the Executive Council.

4. A student member in good standing shall have the same rights and privileges as associate members.

5. A corporate member may withdraw

from the CDA only by written notice presented on proper authority to the secretary one year or more in advance of the annual meeting which coincides with the intended date of withdrawal. The secretary must advise an officer of all other corporate members of such notice within 30 days of his receipt of such notice.

6. A corporate member may delegate its membership or its privileges to a provincial dental association of its choice subject to approval from the Board of Governors.

7. A corporate member can name representatives to the Board of Governors pursuant to Article V, Section 2(a) and (b) and Article V, Section 3.

8. A corporate member can name individual members of the Association pursuant to Article II, Section 2 and Article XV.

9. A corporate member may name student members to the Association pursuant to Article II, Section 5.

10. A corporate member may make submissions by way of resolutions to the Board of Governors.

11. The treasurer shall continue to be an appointive officer.

12. A chairman elected by the Board of Governors shall preside at meetings of the Board.

13. Each corporate member shall be entitled to appoint or elect members of the Board of Governors on the basis of one Board member for every 350 individual members.

14. In its deliberations the Board of Governors shall try to distinguish issues which fall under provincial jurisdiction according to the federal or provincial laws of Canada.

15. The Board of Governors shall meet at least once annually at such time and place as may be determined by the Executive Council.

16. Special sessions of the Board may be called by the president on a simple majority vote of the Executive Council or the Board of Governors.

17. The Executive Council shall be expanded to comprise the president, president-elect, immediate past president, and five other members elected by the Board of Governors from its membership.



Eleven former CDA presidents sat down at the Past President's Breakfast on Thursday morning. Shown clockwise are W. P. Munsie, J. P. Whyte, Henri Brouillet, W. G. McIntosh, Rémy Langlois, H. W. Reid, Gustave Ratté, G. M. Dewis, P. S. Christie, J. P. Coupland and P. G. Anderson.

18. A member of the Executive Council must be a member of the Board of Governors.

19. The Executive Council shall be empowered to establish ad interim positions when the Board is not in session.

20. The Executive Council shall submit a report to the Board of Governors after each Executive Council meeting.

21. The secretary shall manage the Association's bureaux according to the mandates of the Board of Governors and as directed by the Executive Council.

22. All councils except the Executive Council shall be redesignated as 'committees.'

23. The Council on Education shall be expanded to nine members. Nominees will be drawn from a resource pool derived from recommendations of the Association of Canadian Faculties of Dentistry, the National Dental Examining Board of Canada, the Royal College of Dentists of Canada and from the CDA membership at large. Each of the first three organizations will also be allowed to name one additional non-voting representative to the council.

24. The Council on Education shall accredit and periodically review the accreditation of undergraduate, postgraduate and graduate programs in dentistry and programs in dental hygiene in accordance with requirements and standards approved by the Board of Governors.

25. The Council on Education shall similarly approve dental internships.

26. The Council on Education shall compile information for the Board of Governors on matters pertaining to specialty areas of dental practice.

27. The Council on Public Health shall be redesignated as 'Council on Public Health and Preventive Dentistry.'

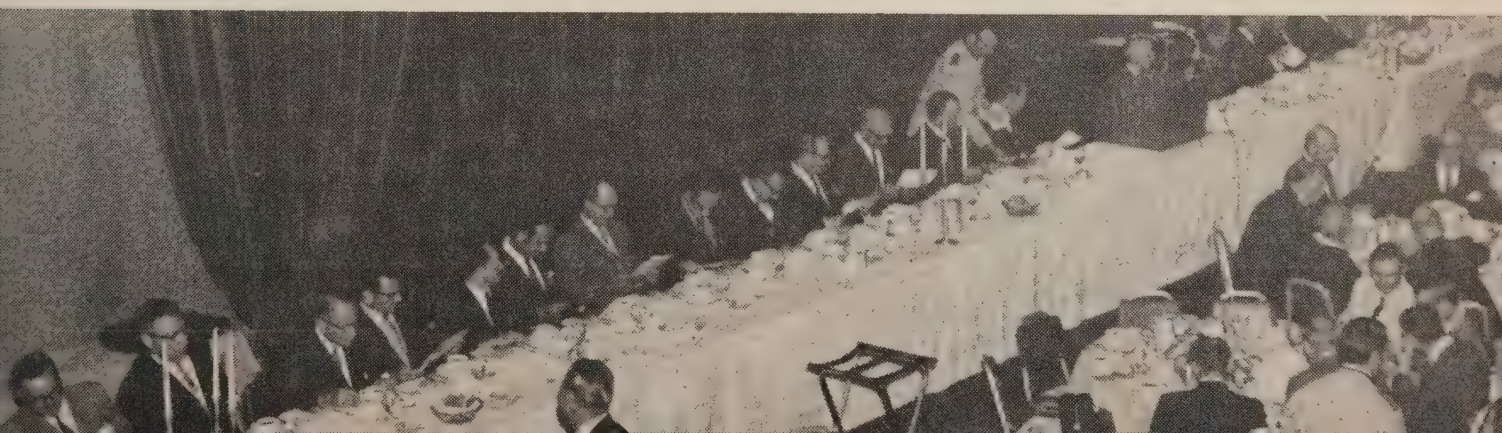
28. The Hospital Services Committee shall be reduced to five members.

29. The Specialists and Specialization Committee will be discontinued. Its duties will be transferred to the Council on Education.

30. Sections shall be the national organizations of specialties recognized by the CDA.

31. Reference committees at annual meetings of the Board of Governors shall consist of five members of the Associa-

Headtable guests at the College of Dental Surgeons of the Province of Quebec luncheon on Thursday.



tion to be appointed by the president or the Executive Council at least 60 days in advance of each annual meeting. Reference committees will consider reports referred to them, conduct open hearings and report their recommendations to the Board of Governors.

32. To receive attention from the Board of Governors, submitted resolutions must be submitted by corporate members at least 60 days prior to the annual meeting.

All US Health Care May be Prepaid by 1980

The president of the American Dental Association predicts that virtually all health care in the United States will be prepaid by 1980. Hubert A. McGuirl made the forecast at the CDA luncheon July 11.

"By 1980 we must replace treatment by prevention," he said, "otherwise dental caries will overwhelm us. By 1980 we must find a vaccine to prevent, or at least deter, dental caries. By 1980 we must find a coating that will make the tooth surface impervious to the agents that cause tooth decay. And by 1980 we must find some way to provide comprehensive health care for the American people from the cradle to the grave irrespective of their ability to pay."

Dr. McGuirl said the American people are being indoctrinated with the idea that comprehensive health care is an inherent right. "We have less than 10 years to solve the problem . . . and if we do not succeed by 1980, the health professions will become nothing more than social organizations," he said.

"I have dealt with labour, management and government during my eight years as an officer of the ADA," said Dr. McGuirl. "I am a director of the National Association of Dental Service Plans in the US, I have dealt with these people and I am not afraid of government or labour. If anything happens to you or to me it will be because of our own apathy, because of our own indecision, because of our desire to preserve a status quo that we cannot maintain."

The ADA president said that the dental profession cannot outspend labour or

government. "The only sensible thing . . . is to sit down with the right people, both in and out of dentistry, and try to solve the problem of bringing total dental care to all of the people. If we do this, we will succeed."

Scientific Session Presents Busy Program

More than 700 engrossed dentists watched, listened and debated the latest advances in dentistry at the national convention which ran from July 9 through July 11. Following are résumés of a few of the excellent essays and lectures presented during the three day session.

Paedodontists Must Convince Patients

The first step a dentist must take before hoping to treat a child is to win the confidence of the parents, convention delegates were told.

One reason for this, said T. C. Levitas, a paedodontist from Atlanta, Georgia, is that most parents don't realize the importance of spending money to maintain their children's dental health.

"Dentistry for children is the most needed, and yet most neglected of all services performed by the dentist," Dr. Levitas said.

"Many parents will struggle against paying a large sum of money for dental care because 'the baby teeth will drop out anyway,' but I say it is absolutely essential that the deciduous teeth get as much attention as possible."

"I try to show every parent who brings a child to me for treatment that the deciduous teeth are intended to guide the permanent teeth into position. If the deciduous teeth are prematurely lost, this can contribute to health problems. I see no reason why any child should be subjected to discomfort and disease when they can be prevented," Dr. Levitas said.

Before embarking on treatment, he said, he insists on both parents coming in for consultation. This is necessary because most people have no concept of

what modern dentistry is capable, he claimed.

Another reason for their presence is that they can see what they are paying for. For this, he makes use of radiographs which will pinpoint every single defect in the child's mouth.

"The key to the matter is understanding," he stated. "Understanding brings acceptance. If parents are made to understand the child's needs, they will automatically feel that all that is being done stems from their own decision. It is also easier for the dentist to sell his profession."

"We must, after all, face up to the competition of consumer goods. People would much rather buy a new car or a new washing machine than pay a dentist's bill. Since we are not allowed to advertise, we must show parents the necessity of purchasing good health for their child."

Parents' lack of understanding could be illustrated by the number of children in the US with dental problems, he said. More than 90 per cent of children under five years old and 50 per cent of those under 15 have never visited the dentist.

"It is not the children's choice, but that of their parents."

"There are two factors responsible for this," he commented. "One is lack of understanding. The other is fear — fear that money will have to be spent."

Parents could help the dentist and reduce the amount of money they have to spend by seeing that the child brushes after every meal and gets the proper nutrition.

"The requirements of proper nutrition for maintaining general health are the same that provide and maintain mouth health," he said. "Between meals snacks are usually responsible for the harmful sugars that contribute to dental decay."

Dr. Levitas recommended check-ups every four months and admonished parents against rewarding a visit to the dentist by giving the child a toy.

Anxiety May Cause Caries

A Quebec psychiatrist said nervous tension can set off a chain reaction which results in dental caries.

Jean-Marie Albert, psychiatrist at the Hôpital St-Charles, Joliette, said psychological factors can cause and aggravate dental disease. One example he cited was of the acutely anxious person whose mouth is often dry.

"It has been shown that the rate of dental decay increases when salivary flow is sparse over a long period of time."

Emotional problems can also cause poor eating habits, as evidenced among depressed people who tend to eat soft foods which are easy to chew and swallow.

Dr. Albert said they are 'emotionally comforting,' unlike fibrous and coarse foods which are good for the teeth and gums.

Adolescence, Dr. Albert pointed out, is a time of increased growth accompanied by high intake of food and increased anxiety and dental caries.

Dr. Albert had a word of advice for the dentist who treats such a patient:

"The patient may feel guilty and depressed because his mouth is in poor condition. The dentist must avoid being either a moralist or being over-solicitous. The relationship between patient and dentist is important," he said.

Poor Dental Health

Quebeckers are in such a poor state of dental health compared with their US cousins that they need eight fillings for every four which the American has.

Jean-Paul Lussier, dean of the Faculty of Dental Surgery, Université de Montréal, said that the United States "led the world" in fluoridating its water supplies.

Despite the fact that Quebeckers need twice as much dental treatment as Americans, they have only half as many dentists serving communities of comparable size, Dr. Lussier said.

In the United States, he pointed out, the dentist-patient ratio is about one dentist to 2,000 patients, while in Quebec the figure is one to 3,600.

In Montreal, he added, the ratio is reasonably good with one dentist serving 2,800, but in remote areas of Quebec Province there may be only one dentist for 10,000.



Fourteen Canadian and one American dentist were inducted as Chevaliers de St-Vincent at a colourful ceremony during the College of Dental Surgeons of the Province of Quebec centennial dinner on Thursday night.

Another problem in the province, Dr. Lussier said, is that only 10 per cent of the population visit a dentist every six months for a routine check.

Dr. Lussier claimed that not only is the situation in Quebec one for grave concern but "it is getting worse year after year."

"We will continue losing ground," he said, "unless drastic steps are taken as soon as possible." Dr. Lussier listed these as "fluoridated water supplies, more dental manpower and better education of the public about the importance of dental health."

Urge Using Auxiliaries

If Canadian dentists are ever going to satisfy the dental needs of the population they must begin to use auxiliary personnel to perform mechanical tasks, an economist and administrator told convention delegates.

A. P. Ruderman, professor of health administration at the University of Toronto,

said there are not enough dentists in Canada to meet present and future needs. "An important stratum of the population is not getting the dental care they need."

"The dental profession has to face up to the fact that giving increased responsibility to auxiliary personnel is necessary and will not have a bad effect on their esteem or income — they will actually make more money."

"You have evidence right here in Canada of the things a competent auxiliary can do. And you pay them less so you get more work per dentist at no increased cost to the population," he said.

The Canadian evidence Dr. Ruderman spoke of is an experiment carried out at the Canadian Forces Base Borden. There, in 1964-65, auxiliary personnel were trained to fill teeth under supervision after preparations were made by the dentist.

At the end of the experiment there were one dentist and two fully equipped clinics and separate space for all auxiliary personnel. Dental productivity had increased 124.2 per cent.



Distinguished visitors graced the headtable at the CDA luncheon on Friday. Left to right: Germain Bigué, president, Quebec Medical Association; CDA President H. R. Maclean; L. E. Balding, past president, British Dental Association; H. A. McGuirl, president, American Dental Association; D. W. Gullett, representing the FDI; and outgoing CDA President Henri Brouillet.

Another study cited by Dr. Ruderman showed the net income of dentists according to the number of auxiliaries they employed.

A dentist with no auxiliary personnel in 1958 had a net income of \$6,096 compared with a net income of \$14,054 for the dentist who employed five or more auxiliaries.

In hiring such personnel the dentist can work at a higher professional level and more adequately look after the dental needs of the population, he said.

Convention Launches 'Communications for Unity' Program

The national convention set in motion an imaginative new program to convince every dentist why he needs a strong national organization, what it now does for him and what it aspires to do for him if it has his full support, what it hopes to achieve for dentistry and what the benefits will mean for him and the public.

Central to the project is an integrated communications package including proposals for an entirely revamped national convention, 'meet the CDA president sessions' at local society meetings, a CDA speakers bureau, a revitalized Bureau of Public Information, recasting of the Journal, *Transactions*, and other CDA publications, and a stepped-up program for students. Also envisaged are measures to improve relations with the public, cultivate the press, radio and television media, and

promote closer contact with the federal government over actions or legislation affecting dentistry.

The recommendations came from Carleton, Cowan Public Relations who recently completed a Canada-wide survey of dentists' attitudes toward the CDA.

CDA, ODA Insurance Plans to Merge

Group life, disability protection and office overhead insurance plans sponsored by the Canadian Dental Association and the Ontario Dental Association are to be combined into a single new program, it was announced at the CDA national convention. The decision culminates protracted negotiations to merge the two associations' plans.

Premiums for benefits under the new program will compare favourably with those for the current plans. Coverage for those who are now insured under CDA or ODA group plans will automatically continue under the new program without any reduction of benefits.

Underwriters for the merged plans are Laurier Life, Imperial Life, Mutual of Omaha, and Continental Casualty Insurance Companies. Administration will be by Canadian Dental Service Plans Inc. which will also provide a limited advisory service under the direction of the newly-formed CDA (Standing) Committee on Commercial Insurance.

The Association

CDA Obtains Tax Exemption for Impression Materials

Dental impression materials have been exempted from federal sales tax. The decision, announced June 6 by National Revenue Minister J. P. Côté, means a saving of 12 per cent (\$60,000) on the estimated \$500,000 Canadian dentists annually spend on impression materials.

CDA officials had asked for lifting of the federal sales tax from articulators as well as impression materials when they met with the Minister last March 4, but this request has not yet been granted to dentists.

Mr. Côté said, however, that dental technicians can in future obtain dental plaster, dental stones and articulators free from sales tax provided these materials are used directly in the manufacture of prosthetic appliances. To qualify, technicians must furnish a certificate to this effect to their Canadian suppliers or on Customs import entries.

ADA, CDA Executives Air Mutual Problems in Chicago

Mutual problems were discussed as the American Dental Association Board of Trustees and the CDA Executive Council convened July 21 and 22 in Chicago for the fourth time in the history of the two associations. The two groups previously had met in Toronto in 1960 and 1966 and in Chicago in 1963.

Subjects considered at the meeting included dental education, auxiliaries, group insurance programs, the ADA children's dental health program, specialization, (US) National Board of Dental Examiners, (US) medicare and medicade, Canada medicare, aims and objectives of the CDA, relationship of the ADA to state dental organizations, postage problems affecting dental publications, Ontario Royal Commission of Inquiry into Civil Rights (McRuer Report), Ontario Council of Health, Ontario Legislature's Committee on the Healing Arts, and conduct of ADA

annual meetings. Representing the CDA were H. R. MacLean, president; W. J. Spence, president-elect; A. L. MacIsaac, W. P. Munsie and J. B. Taylor; W. G. McIntosh, secretary; F. H. Compton, editor; Mrs. B. I. Brown, director, Bureau of Economic Research; D. M. McDonald, CDA comptroller; P. S. Christie, chairman of the Board of Governors; W. J. Dunn, chairman, Council on Education; P. E. Currie, chairman, Dental Services Committee; and O. J. Yule, chairman, Specialists and Specialization Committee.

President MacLean, Secretary McIntosh Visit East

CDA President and Mrs. H. R. MacLean, accompanied by Secretary and Mrs. W. G. McIntosh, visited dental societies in Prince Edward Island and Newfoundland this month.

They attended the Atlantic Provinces Dental Convention at Summerside, PEI, September 14-17, and the annual meeting of the Newfoundland Dental Association at St. John's, September 18-20.



The fourth joint conference of the CDA Executive Council and the American Dental Association's Board of Trustees was held in Chicago July 21-22. Taking part in the discussions are (top to bottom) ADA Executive Director Harold Hillenbrand, ADA President H. A. McGuirl, CDA President H. R. MacLean and CDA Secretary W. G. McIntosh.

Helen Collins Married

Helen M. Collins, personal aide to former and current CDA Secretaries D. W. Gullett and W. G. McIntosh will be married to Dougald A. Armstrong of Fenelon Falls, Ont., September 22.

For many years Miss Collins has managed the Association's staff office at CDA national conventions and thereby became known to many dentists across Canada.

A talented artist in her own right, she has won awards and exhibited samples of her work at CDA art exhibits.

Mr. and Mrs. Armstrong will make their home near Lindsay, Ont., following a wedding trip to England. Mrs. Armstrong will continue to work at CDA Headquarters.



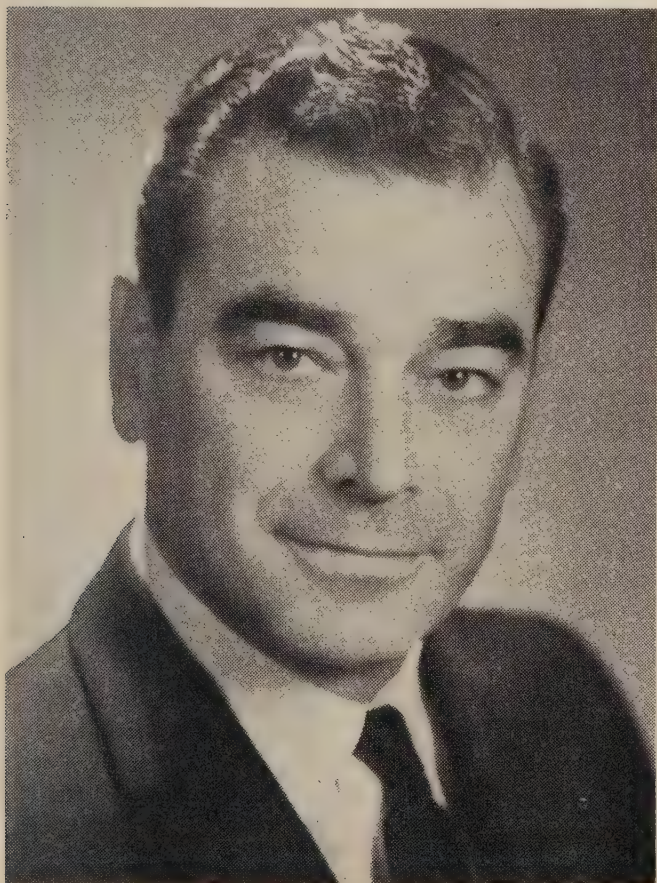
Miss Collins at her desk.

Brantford, Ont., as president of the Royal College of Dentists of Canada. A. M. Hayes, Vancouver, is vice-president. J. E. Speck, Toronto, continues as secretary-registrar-treasurer.

Dental Organizations

Dr. Ames is President of Royal College

Clifford Ames of Vancouver, pictured below, recently succeeded R. L. Scott of



Clifford Ames

Canada and the Provinces

Wilder Penfield Honoured by International College

Wilder Penfield, Montreal's world-famous neurosurgeon, has become an honorary life member of the Canadian Section, International College of Dentists. Thirteen dentists were also inducted as fellows at

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on July 31:

Government Bond Fund \$13.851;

Corporate Bond Fund \$14.835;

Common Stock Fund \$23.119.

Total assets (market value) of the plan were \$8,803,509.93.

The following common stock portfolio purchase occurred during the preceding month: Royal Trust Guaranteed Investment Receipt 7¼ per cent due August 7, 1969 for \$300,000.

For further information please write to The Administrator of CDA-sponsored Pension and Insurance Plans, Professional and Industrial Pensions Ltd., 2249 Yonge St., Toronto 295, Ont.

the college's annual convocation July 10 in Montreal. They are: Col. L. G. Craigie, Canadian Forces Base Borden, Ont.; Col. G. R. Covey, Ottawa; J. A. Giroux, Sherbrooke, Que.; A. H. Lane, Edmonton; R. M. Lyn, Kingston, Jamaica; J. C. Waddell, Calgary; and Herbert Caplan, R. W. Faith, L. E. Francis, J.-P. Lussier, J. J. McCarthy, P. C. Staples and H. L. Musells, all of Montreal.

W. J. Riley, Winnipeg, succeeds J. A. Fortier, Montreal, as president of the Canadian Section. Other executive members are: C. M. Purcell, Pembroke, Ont., president-elect; Louis Bernier, Quebec City, vice-president; H. R. Skilling, Toronto, treasurer; E. A. White, Toronto, registrar; and E. M. Wansbrough, Ottawa, editor.

The International College of Dentists, with sections in most countries of the world, was formed to honour members of the profession who have made conspicuous and meritorious contributions to the art and science of dentistry.

Proposes Postage Stamp to Honour H. K. Box

The Canada Post Office has been asked to issue a postage stamp honouring the dental profession through the late Dr. H. K. Box. The suggestion was made by Robert Ward of PRA, Public Relations Associates, Toronto, in a recent letter to Postmaster-General Eric Kierans.

Mr. Ward complimented the post office for its recent stamp in honour of the noted Canadian physician, Sir William Osler. "In like vein," wrote Mr. Ward, "I feel it is timely that the postal authorities honour another outstanding Canadian scientist who also won international acclaim for his country and whose significant accomplishments in the field of dentistry earned Canada a top-ranking position in oral health throughout the world. I refer to Harold Keith Box, 'the father of modern periodontology'."

As a research professor at the University of Toronto Dr. Box practised only a few hours a day, spending all of his remaining hours in clinical and laboratory research which, as Mr. Ward points out, resulted in significant discoveries that today help dentists to cope with periodontic



For the second year in a row, the Ladies' Auxiliary to the Hamilton Academy of Dentistry has donated a cheque for \$1,000 to the Canadian Fund for Dental Education. The gift from the ladies of Hamilton, along with \$58,200 from other contributors, has been committed to this year's CFDE program in support of dental education and research. It adds up to making 1969 a record-breaking year for moving dentistry ahead in Canada.

diseases. Numbered among the few patients in Dr. Box's restricted practice were the Hon. C. D. Howe, Lady Eaton and former Ontario Premier Leslie Frost.

Statutory Recognition for Ontario Health Council

The Ontario Council on Health, the province's influential advisory body on health matters, has been strengthened through statutory recognition accorded in recent provincial health legislation. The council was formed June 16, 1966 by Order-in-Council. The recently enacted Bill 97 (An Act respecting The Department of Health) now identifies the composition and specifies the duties of this "senior advisory body to the government and the health minister." Among other things, the council advises on health resources and health manpower requirements.

The council consists of 15 appointed members plus the chairman of the Ontario Hospital Services Commission and the deputy minister of health who is chairman of the council. The council is representative of the community generally —

the professions, labour, women's groups, voluntary agencies and universities. W. J. Dunn, dean of the Faculty of Dentistry, University of Western Ontario, is a council member.

International Items

Implant Seminar Set For November in London

Leonard Linkow will conduct a dental implant seminar in London, England, November 14-16. The seminar will include a description of the Blade-Vent Endosseous Implant as well as all other types of dental implants and their methods of insertion. Implant operations will be carried out live on close circuit TV and seminar participants will examine and question patients with implants.

For further details, write to Ronald Cullen, 1 Harley St., London W.1, England.

Dental Education

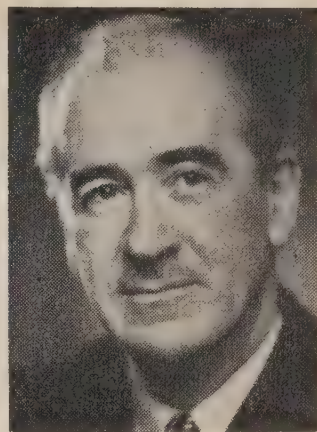
Royal College Confers Fellowships

Two of Canada's most distinguished dentists received honorary fellowships July 12 at the Montreal convocation of the Royal College of Dentists of Canada. They are P. G. Anderson, Toronto, and H. E. Bulvea, Edmonton. Dr. Anderson, a former CDA president, is an associate



H. E. Bulvea

P. G. Anderson



dean at the Faculty of Dentistry, University of Toronto. Dr. Bulvea is the founder and former dean of the University of Alberta's dental faculty.

Fellowships by examination were conferred on:

Dental Sciences Group: S. Wah Leung and J. D. Spouge, Vancouver; R. V. Blackmore, Edmonton; K. J. Paynter, Saskatoon, Sask.; I. Kleinberg, Winnipeg; G. S. Beagrie, A. M. Hunt, H. A. Hunter, R. S. Locke, J. A. Pedlar and H. G. Poyton, Toronto; R. M. Grainger, Ottawa; and L. E. Francis and J.-P. Lussier, Montreal;

Endodontics: J. S. Smith and C. D. Torneck, Toronto;

Oral Surgery: Paul Mercier, Montreal, and F. W. Lovely, Halifax;

Orthodontics: R. M. MacAllister, Vancouver; P. G. Peloso, Kitchener, Ont.; T. Wachna, Windsor, Ont.; S. E. Rosenthal, Toronto; and A. C. Mendel, L. L. Prosterman and M. D. Rennert, Montreal;

Periodontics: M. Poplove, Ottawa; M. M. Dines, F. I. Muroff and A. S. Wainberg, Montreal; and M. A. Listgarten, Philadelphia;

Prosthodontics: G. A. Zarb, Toronto, and R. G. Jones, Montreal.

Course on Occlusion at Alberta U

The Faculty of Dentistry, University of Alberta, offers a short postgraduate course on occlusion October 8-11, 1969. Tuition fee for the course, which will be directed by H. C. Lundeen, is \$140. This course is in addition to those published in

the July Journal in the "Calendar of Canadian Postgraduate Courses."

Inquiries and requests for application forms should be sent to R. C. McClelland, Faculty of Dentistry, University of Alberta, Edmonton, Alta.

Fluoridation

British Government Endorses Fluoridation

After 11 years of research, including a close look at Canada and the United States, the British government July 9 declared that fluoridated water is safe and highly effective in reducing tooth decay. It called on all communities to ignore opponents and spread the use of fluoridated supplies.

Montreal Dentists Push for Fluoridation

In the same week that Britain joined Canada and the United States in recommending fluoridation, Mayor Jean Drapeau told Montreal dentists he had no intention of forcing fluoridation on those who don't want it.

And so, although the Canadian Dental Association reaffirmed its "long-standing approval of fluoridation" on July 9, Montreal may be the last great stronghold of the once powerful anti-fluoridation forces that have battled municipal governments for more than 20 years.

The feud between dentists and Drapeau that has been simmering for years boiled over early in July when the mayor turned down a request for city-wide fluoridation from the Quebec Dental Hygiene League.

The League sent back a reply "deploring the attitude of Mayor Drapeau and the Executive Committee" toward water fluoridation and charging the mayor is allowing himself to be influenced by the ill-informed.

While the mayor has not argued against the benefits of fluoridated water, he has expressed concern over the number of people who oppose the addition of fluoride compound to drinking water.

While the mayor wants to drop the whole matter, Montreal dentists are still fuming over the administration's refusal to face up to the anti-fluoridation alliance.

Above all, they are disturbed that the mayor has given way before the letter-writing campaign of their opponents despite overwhelming evidence that fluoridation is both safe and essential to proper dental health.

Economics

Dentists Again Fourth Highest Income Earners

Self-employed dentists were again the fourth highest income earners in 1967, the Department of National Revenue reports. There were 5,108 self-employed dentists with average incomes of \$18,272 and average tax bills of \$4,208.

Self-employed physicians again topped the list of taxpayers with average incomes of \$27,347. They were followed by consulting engineers and architects (\$22,111), and lawyers and notaries (\$22,014).

Professionals who work as salaried employees are not included in the tabulation but are classed in the large general category of employees. This contains 5,788,100 taxpayers with average incomes of \$5,300 a year and average tax payments of \$589.

Ontario Medicare to Cover Certain Hospital Dental Services

Twenty-nine specified dental surgical procedures in hospital will be covered when Ontario's Medical Care Insurance Plan joins the federal government's shared-cost medical insurance program October 1.

Medicare Ontario-style — to be rechristened the Ontario Health Services Insurance Plan (OHSIP) — will be supplemented by a "massive program of health resources development" and "demonstration projects on alternative methods for the delivery of health care."

Quebec Group Urges Special Training for Dental Assistants

The Quebec Professional Association of Dental Surgeons has claimed that dental health in Quebec is in a deplorable state and suggests that the provincial Department of Education start a training course in dental assistance at the junior college level. The recommendation is made in a brief presented to a study committee of health professions in August in Quebec City.

The brief recommends that the Quebec Dental Act be amended to permit dental assistants to perform secondary acts not requiring the skill of a dentist. The association claims that only 10 per cent of the population receives proper dental care because of a lack of dental personnel.

The brief also suggests:

Allowing dental assistants, with three years of practical experience in a dental office, to practise after completion of a six month intensive course;

Co-ordination of training programs for dental assistants and dental hygienists with an additional option of 'dental public health' for the latter;

Improvement in the competence of dental laboratory technicians;

Amendment of the Dental Act to permit competent dental technicians immigrating to Quebec to practise in the province; and

An amendment to the Dental Act to allow a dental student to have the same prerogatives as a dental assistant.

The association's brief also stipulates that the dentist be fully responsible for services rendered by the various categories of auxiliary personnel.

Awards and Honours

A. E. MacLeod, acting director of the School of Dental Hygiene at Dalhousie University, Halifax, has been selected by the Medical Research Council of Canada as one of its 1969 Centennial Fellows.

Deaths

Falardeau, Jules Hector. 70. Montréal. Université de Montréal, 1925. 24-6-69. Survécu par Claire (épouse); Jean (fils); Louise et Mme Claude Ramsay (filles); et Charlotte et Mme D. H. Pelquin (soeurs).

Neen, Adam Thompson. 75. Vancouver. North Pacific College, University of Oregon, 1926. 12-7-69. Survived by Dorothy Florence (wife); William A. and John J. (sons); John R. (brother); Mrs. J. S. White and Winnifred E. (sisters); and eight grandchildren.

Nelson, Claude Arnold. 69. St. Catharines, Ont. Royal College of Dental Surgeons of Ontario, 1923. 25-7-69. Survived by Helen (wife); Dr. Daniel (son); Mrs. Donald Venus and Mrs. Jack McBride (daughters); and eight grandchildren.



Canadian Forces Headquarters recently announced the promotion to Lt.-Col. of Maj. J. M. A. Donely. A 1950 graduate of the University of Toronto, Lt.-Col. Donely was an instructor at the Canadian Forces Dental Service School in Camp Borden. He has been posted to Canadian Forces Base Cornwallis where he will command the recruit treatment facility.

Les Gouverneurs adoptent des résolutions importantes sur l'éducation et le paiement par anticipation

Lors de l'assemblée annuelle tenue à Montréal, le Conseil des Gouverneurs de l'ADC a donné le feu vert pour l'élargissement du Conseil de l'enseignement, et a également adopté une résolution majeure en ce qui concerne les régimes dentaires payés par anticipation.

Après un long débat sur la décision de l'Association dentaire de l'Ontario de réduire ses subventions à l'ADC, le Conseil des Gouverneurs a renversé une résolution qui aurait chargé le Conseil Exécutif d'étudier la modification du principe de représentation au Conseil des Gouverneurs, afin que celui-ci reflète le montant des subventions des membres corporatifs.

Les Gouverneurs ont alors approuvé un budget pour 1970, proposé par le Conseil Exécutif, qui indiquerait un revenu de \$322,600, des dépenses de \$394,400, et un excédent des dépenses de \$71,800.

L'enseignement dentaire

Le Conseil des Gouverneurs a voté d'élargir immédiatement le Conseil de l'enseignement de six à neuf membres. Ceux-ci seront choisis parmi les membres de l'Association des facultés dentaires du Canada, du Bureau national d'examen dentaire du Canada, du Collège royal des Chirurgiens-Dentistes du Canada et de

l'Association dentaire canadienne. Ceci aura donc pour effet de refléter au Conseil de l'enseignement les particularités géographiques et linguistiques du Canada. Le Conseil sera composé de professeurs à plein temps et à temps partiel; de hauts administrateurs universitaires; de dentistes ou autres, au courant des activités de l'AFDC, du BNED et du CRCDC; et de dentistes ou autres dont l'expérience et l'intérêt sont liés au travail du Conseil.

Les Gouverneurs ont ensuite approuvé une recommandation selon laquelle l'ADC continuerait à accréditer les programmes d'enseignement dentaire ainsi que les programmes d'enseignement et de formation des auxiliaires dentaires. Ils ont été également d'accord avec un amendement des règlements qui autorise le Conseil de l'enseignement "à accréditer les programmes universitaires et post-universitaires en chirurgie dentaire et en hygiène dentaire, et à reviser périodiquement l'accréditation qu'il leur accorde". Par ces résolutions, les Gouverneurs ont été d'avis que la reconnaissance au niveau national permet une reconnaissance inter-provinciale et internationale, mais qu'elle n'empêche pas l'accréditation au niveau provincial.

En ce qui concerne les normes, le Conseil des Gouverneurs a adopté les exigences minima proposées pour l'approbation de cours post-universitaires menant à un



A gauche: Gustave Ratté offre un cadeau de la part de l'Association au président sortant Henri Brouillet. A droite: le président H. R. MacLean, le secrétaire W. G. McIntosh et le président sortant Henri Brouillet partagent une bonne blague.

diplôme spécialisé reconnu par l'ADC.

Une nouvelle résolution réclamant la déduction des frais de scolarité pour des cours organisés par une université ou un hôpital, pour les manuels requis et les instruments, et pour les frais de voyage a été soumise au Sous-comité de taxation du Conseil Exécutif.

Les modalités de paiement par anticipation

Deux résolutions importantes sur les modalités de paiement par anticipation ont été adoptées après de longues discussions au comité d'étude. Les Gouverneurs ont réaffirmé leur ratification du principe de paiement par anticipation pour les services dentaires. De plus, ils ont donné leur appui au principe de la participation à des régimes payés par anticipation et organisés sous l'égide de la profession.

Les auxiliaires dentaires

Les Gouverneurs ont de nouveau rejeté une résolution sur la délégation des fonctions aux auxiliaires dentaires. La résolution défaite était ainsi conçue:

"Il est résolu que l'Association dentaire canadienne affirme, comme principe fondamental, que seul le dentiste doit être responsable du degré d'excellence et de la qualité des soins dentaires reçus par ses patients, et en outre

"Il est résolu qu'en assumant cette responsabilité le dentiste a le droit, dans la juridiction du bureau provincial qui a émis sa licence, de déléguer aux individus sur lesquels il exerce une surveil-

lance et un contrôle efficaces, les fonctions qui ne demandent pas les connaissances professionnelles et l'habileté du dentiste, et en outre.

"Il est résolu qu'une recommandation soit faite priant les bureaux provinciaux de licence de s'efforcer de créer un milieu légal pour l'exercice de l'art dentaire qui permettra l'exécution efficace du principe mentionné ci-dessus, et en outre

"Il est résolu que le principe de la responsabilité définitive du dentiste soit énoncé clairement et sans équivoque comme l'une des conditions fondamentales des statuts et des règlements qui régissent l'exercice de l'art dentaire".

Une résolution qui aurait transformé le Comité des services auxiliaires en "Comité des services connexes" et qui lui aurait donné un nouveau mandat a été ajournée jusqu'à l'an prochain.

La spécialisation

Les Gouverneurs ont ajourné la discussion d'une série de résolutions concernant les spécialités et les sections.

Une de ces résolutions demandait l'amendement des règlements de façon à limiter les sections de l'ADC aux organisations nationales des spécialités reconnues, et de restreindre le droit de vote dans les sections aux spécialistes.

Une autre recommandation avait proposé que l'Académie canadienne de dentisterie de restauration et la Société canadienne d'hygiène dentaire publique maintiendraient provisoirement leurs statuts de sections pour un maximum de trois ans, en attendant de nouvelles me-

sures de la part du Conseil des Gouverneurs au sujet de la demande de reconnaissance de la dentisterie de restauration et de l'hygiène dentaire publique en tant que spécialités.

Les Gouverneurs ont accepté de différer indéfiniment une tentative visant à regrouper les secteurs spécialisés. De plus, ils ont ajourné la discussion qui aurait mis fin au moratoire sur la reconnaissance de nouvelles spécialités et sections.

Les services hospitaliers

Dans d'autres domaines le Conseil des Gouverneurs:

- A décidé que l'ADC continuerait d'approuver les services et les installations dentaires des hôpitaux à travers le Canada, à la demande de l'hôpital et en consultation avec les comités provinciaux de services hospitaliers. Tous les cinq ans, l'hôpital sera réévalué afin de déterminer si l'approbation sera prolongée.

- A recommandé que la Section dentaire du Ministère national de la Santé et du Bien-être prête son concours aux divisions dentaires des ministères provinciaux de la santé afin d'obtenir des données sur l'état dentaire des personnes âgées.

- A demandé aux facultés dentaires d'offrir des cours de recyclage sur le traitement des personnes âgées.

- A encouragé les sociétés dentaires à inviter des cliniciens qui discuteraient des problèmes concernant la dentisterie pour les personnes âgées.

- A autorisé le Conseil d'hygiène publique à distribuer aux journaux hebdomadaires canadiens de courts articles d'information sur la santé dentaire.

- A réitéré l'appui qu'il donne à la fluoruration.

- A remis au point et approuvé un communiqué sur la relation entre les hydrates de carbone et la carie dentaire.

- A autorisé le Conseil de la constitution et des règlements à entreprendre une révision et à condenser le Code d'éthique professionnelle.

- A donné son accord à une recommandation selon laquelle le trésorier continuerait à être un officiel nommé par le Conseil Exécutif.

- A donné son accord à l'élection d'un président du Conseil des Gouverneurs. Le Dr P. S. Christie, de Halifax, a été choisi président du conseil.

- A approuvé des résolutions qui transforment le Conseil du journalisme en un comité permanent du Conseil Exécutif et augmente le prix de l'abonnement au Journal de \$7 à \$10 à partir de janvier 1970.

- A demandé au Conseil de la législation d'explorer les moyens les plus efficaces de mettre sur place un programme d'action politique et de créer ainsi une représentation nationale pour la dentisterie.

- A donné son accord au transfert du statut de section de la Société canadienne de dentisterie pour enfants à l'Académie canadienne de pédodontie.

- A sanctionné les changements que voici pour l'emplacement des congrès: (1) en 1971, à Ottawa au lieu de Windsor; (2) en 1974 à Windsor.

- A donné l'autorisation au Conseil Exécutif de choisir un délégué de l'ADC pour faire partie de l'équipe qui enquêtera plus tard cet automne sur les besoins d'éducation et de santé dans les îles Caraïbes qui font partie du Commonwealth britannique. L'enquête sera menée sous les auspices du Service exécutif canadien outre-mer (SECO).

Le Dr MacLean accède à la présidence; le Dr Spence est choisi président désigné

H. R. MacLean, d'Edmonton, a été investi par Gustave Ratté, en tant que 50^e président de l'Association dentaire canadienne. Il succède ainsi à Henri Brouillet de Montréal.

Le Dr MacLean, qui est doyen de la Faculté de chirurgie dentaire de l'université de l'Alberta, est né à Finch, en Ontario, et a terminé ses études à l'université de l'Alberta en 1928. Deux ans plus tard il ouvrit un cabinet dentaire à Edmonton. Il se joignit à la faculté de l'université de l'Alberta en 1935, montant successivement les échelons pour devenir directeur du Département de dentisterie de



W. G. Leahy, ancien directeur de la Clinique dentaire de l'université McGill, a reçu un certificat de membre honoraire de l'ADC des mains de Henri Brouillet, président sortant.

restauration en 1937, professeur de dentisterie de restauration en 1946, chef de la Section du diagnostic buccal en 1948, devenant enfin doyen de cette faculté en 1958. Le nom du Dr MacLean a toujours été lié à l'enseignement dentaire. Il offrit ses services à l'ancien Conseil dentaire du Dominion de 1938 à 1952, au Comité adjoint de la Recherche dentaire du Conseil national de Recherche 1946-59, au Bureau

national d'examen dentaire du Canada 1953-68 (les derniers temps comme président), et au Conseil Exécutif de l'Association américaine des écoles dentaires 1961-67. Ancien président des associations locale et provinciale, le Dr MacLean avait, depuis 1963, représenté l'Association dentaire de l'Alberta au Conseil des Gouverneurs de l'ADC, et était élu, en 1965 au Conseil Exécutif de l'ADC. Il est membre de l'American College of Dentists, ancien président du Collège international des Chirugiens - Dentistes (Section canadienne), et membre honoraire de l'Académie canadienne de dentisterie de restauration.

Un orthodontiste de Toronto, W. J. Spence, a été choisi président désigné. Le Dr Spence a été élu au Conseil des Gouverneurs et au Conseil Exécutif de l'ADC en 1967. Il est membre du Collège international des Chirugiens-Dentistes, et ancien président du Toronto Orthodontic Study Club ainsi que de l'Association dentaire de l'Ontario.

Conseil Exécutif

Ont été réélus comme membres du Conseil Exécutif: A. L. MacIsaac, de Charlottetown et Louis Bernier, de Québec. Trois candidats se sont disputé les deux autres postes. L. E. English de Kamloops,

Cinq des quinze dentistes soumis à "l'épreuve" de l'intronisation en tant que Chevaliers de St-Vincent: K. F. Walsh, de Saint-Jean, Terre-Neuve; Henri Brouillet, de Montréal; H. A. McGuirl, de Providence, Rhode Island; Marcel Archambault, de Montréal et H. R. MacLean, d'Edmonton.



Colombie britannique et J. E. Abra, de Winnipeg, ont été élus par une faible majorité et ont battu E. J. Siegel, de Toronto.

Présidents des conseils et comités

Furent élus présidents des conseils et comités: H. R. MacLean, d'Edmonton, Conseil Exécutif; Rémy Langlois, de Québec, Conseil de la constitution et des règlements; W. J. Dunn, de London, Conseil de l'enseignement; R. M. LeBlanc, de Montréal, Conseil d'étiquette professionnelle; M. M. Derrick, d'Ottawa, Conseil de législation; K. W. Davey, de Toronto, Conseil d'hygiène publique; L. E. Francis, de Montréal, Conseil des recherches; E. F. Allison, de Calgary, Comité des services auxiliaires; D. C. Way, de London, Comité des régimes d'assurances commerciales; J. P. Beattie, de Winnipeg, Comité du Congrès de 1970; P. E. Currie, de London, Comité des services dentaires; J. Kreutzer, de Toronto, Comité de l'immeuble du secrétariat; P. T. Smylski, de Toronto, Comité des services hospitaliers; W. J. Spence, de Toronto, Comité des nominations; et O. J. Yule, de Toronto, Comité des spécialités.

Membre honoraire

Le titre de membre honoraire de l'ADC a été décerné à W. Gordon Leahy, de Montréal, ancien professeur et directeur de la Clinique dentaire de l'université McGill de 1924 à 1956. Plusieurs générations de diplômés de McGill se souviennent des conseils et des encouragements, ainsi que de la compréhension et de l'amitié du Dr Leahy.

Parmi les invités de marque, on notait la présence de: H. A. McGuirl, de Providence, Rhode Island, président de l'Association dentaire américaine; L. E. Balding, de Hove, Sussex, Angleterre, ancien président de l'Association dentaire britannique; Germain Bigué de Val d'Or, Qué., président de l'Association médicale du Québec; et D. W. Gullett, de Toronto, représentant de la Fédération dentaire internationale.

Décisions des Gouverneurs sur les projets d'amendements aux règlements

A partir de l'étude des changements aux règlements proposés lors de la Conférence sur les buts et objectifs de l'ADC, qui s'est tenue les 24 et 25 février derniers, un comité d'étude du Conseil des Gouverneurs a minutieusement examiné les points suivants: les juridictions respectives des organisations dentaires nationale et provinciales; les statuts, droits et devoirs des membres corporatifs; la composition, les pouvoirs et les fonctions du Conseil des Gouverneurs et du Conseil Exécutif; les fonctions des membres électifs et des officiels qui sont nommés; ainsi que la composition et la position des conseils, comités et sections de l'ADC. Afin d'examiner en profondeur les buts et objectifs de l'association nationale, la conférence tenue à la direction du Conseil, avait groupé les délégués des 10 membres corporatifs provinciaux de l'ADC et le Conseil Exécutif de l'Association.

Les amendements qui s'imposent seront rédigés en vue de leur présentation à l'assemblée du Conseil des Gouverneurs en 1970. Les amendements qui ont été proposés et le rapport du comité d'étude seront soumis aux membres corporatifs de l'ADC, aux conseils et aux comités pour une étude plus approfondie, antérieurement à l'assemblée du Conseil des Gouverneurs en 1970 à Winnipeg. Voici quelques changements importants conseillés par le comité d'étude à Montréal:

1. Que les membres individuels de l'ADC seront ceux qui sont inscrits comme membres des organismes corporatifs, et qui ont été admis dans l'Association sur recommandation du conseil d'administration des membres corporatifs.

2. Qu'un membre individuel, auquel le Bureau provincial aurait imposé une peine disciplinaire de suspension, n'aura pas le droit d'exercer quelque fonction que ce soit au sein de l'ADC, et de participer à ses travaux.

3. Que les membres associés n'auront ni le droit de vote, ni la possibilité de remplir les fonctions de présidents de conseils ou de comités, mais qu'ils pourront être membres de comités, sauf au Conseil Exécutif.

4. Qu'un membre-étudiant en règle avec



C'est un succès! de dire ces quatre dignitaires après le déjeuner des Sociétés dentaires locales qui eut lieu mercredi. De gauche à droite: Melvyn Shevell, président de la Mount Royal Dental Society; H. L. Mussells, président du Montreal Dental Club et gouverneur du Collège des Chirurgiens-Dentistes de la Province de Québec; Jacques Matteau, président de la Société dentaire de Montréal; et Jacques Fiset, président de l'Association dentaire de la Province de Québec.

le trésor, aura les mêmes droits et privilèges que les membres associés.

5. Qu'un membre corporatif ne peut se retirer de l'ADC qu'à la condition de présenter au secrétaire un avis écrit de source autorisée un an ou plus avant l'assemblée annuelle qui coïncide avec la date prévue de son désistement. Le secrétaire doit aviser les autres organismes corporatifs dans un délai de 30 jours à partir du moment où il a reçu tel avis.

6. Qu'un membre corporatif peut, après approbation du Conseil des Gouverneurs de l'ADC, déléguer les qualités et/ou les privilèges que lui confèrent son statut de membre corporatif à l'association dentaire provinciale de son choix.

7. Qu'un membre corporatif peut nommer des représentants au Conseil des Gouverneurs, conformément à l'Article V, Section 2 (a) et (b) et à l'Article V, Section 3.

8. Qu'un membre corporatif peut nommer des membres individuels de l'Association, conformément à l'Article II, Section 2 et à l'Article XV.

9. Qu'un membre corporatif peut nommer des membres-étudiants à l'Association, conformément à l'Article II, Section 5.

10. Qu'un membre corporatif peut, à titre de résolutions, faire des soumissions au Conseil des Gouverneurs.

11. Que le trésorier continue d'être nommé.

12. Que le Conseil des Gouverneurs élise un président qui occupera le fauteuil durant les assemblées du Conseil.

13. Que chaque membre corporatif ait le droit de désigner ou d'élire des membres au Conseil des Gouverneurs sur le principe de représentation suivant: un membre au conseil pour 350 membres individuels.

14. Qu'au cours de ses délibérations, le Conseil des Gouverneurs essaie de différencier les questions de fait qui tombent sous la juridiction provinciale, selon les lois fédérales ou provinciales du Canada.

15. Que le Conseil des Gouverneurs se réunisse au moins une fois l'an, en temps et lieu fixé préalablement par le Conseil Exécutif.

16. Que le président puisse convoquer des assemblées spéciales du Conseil des Gouverneurs par un simple vote majoritaire du Conseil Exécutif ou du Conseil des Gouverneurs.

17. Que l'on augmente le nombre des membres au Conseil Exécutif de sorte que l'on y compte le président, le président

désigné, le président sortant, ainsi que cinq autres membres que le Conseil des Gouverneurs élira parmi les siens.

18. Qu'un membre du Conseil Exécutif doit être membre du Conseil des Gouverneurs de l'ADC.

19. Que l'on donne au Conseil Exécutif les pouvoirs nécessaires pour établir des fonctions par intérim lorsque le Conseil des Gouverneurs ne siège pas.

20. Que le Conseil Exécutif remette au Conseil des Gouverneurs un rapport après chacune de ses réunions.

21. Que le secrétaire dirige les bureaux de l'Association, comme l'exige le mandat qu'il a reçu du Conseil des Gouverneurs, et comme prescrit par le Conseil Exécutif.

22. Que tous les conseils, sauf le Conseil Exécutif, soient à l'avenir désignés sous le nom de "comités".

23. Que le Conseil de l'enseignement soit élargi à neuf membres. Les noms des candidats seront choisis parmi les candidatures soumises par l'Association des facultés dentaires du Canada, le Bureau national d'examen dentaire du Canada, le Collège royal des Chirurgiens-Dentistes du Canada et parmi les membres de l'ADC. Chacune de ces organisations sera également autorisée à nommer au conseil un représentant additionnel, celui-ci n'ayant pas le droit de vote.

24. Que le Conseil de l'enseignement ratifie et revise périodiquement l'accréditation des programmes universitaires et post-universitaires en chirurgie dentaire ainsi que les programmes en hygiène dentaire conformément aux exigences et aux normes ratifiées par le Conseil des Gouverneurs.

25. Que le Conseil de l'enseignement approuve les internats dentaires selon les principes énoncés ci-dessus.

26. Que le Conseil de l'enseignement accumule, pour le Conseil des Gouverneurs, de la documentation sur les sujets touchant aux secteurs spécialisés de la pratique dentaire.

27. Que le terme Conseil d'hygiène publique soit changé en celui de "Conseil d'hygiène publique et de dentisterie préventive".

28. Que le Comité des services hospitaliers réduise ses membres à cinq.

29. Que l'on mette fin au Comité des

spécialités, et que la responsabilité en ce domaine soit transmise au Conseil de l'enseignement.

30. Les sections seront les organisations des spécialités reconnues par l'ADC.

31. Que les comités d'étude aux réunions annuelles du Conseil des Gouverneurs comprendront cinq membres de l'Association qui seront désignés par le président ou le Conseil Exécutif au moins 60 jours avant chaque réunion annuelle. Les comités d'étude examineront les rapports qui leur auront été soumis, organiseront des audiences ouvertes et feront rapport de leurs recommandations au Conseil des Gouverneurs.

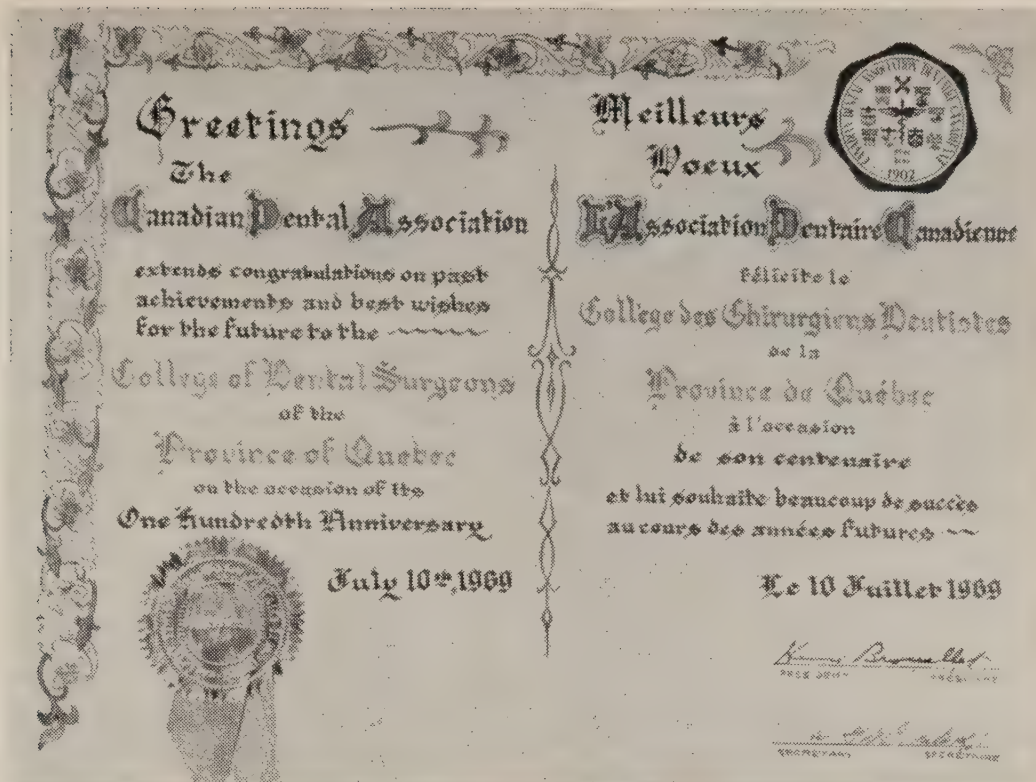
32. Afin de permettre au Conseil des Gouverneurs de diriger son attention vers les résolutions qui ont été soumises, celles-ci devront être présentées par les membres corporatifs au moins 60 jours avant l'assemblée annuelle.

Les assurances de l'ADC et de l'ADO seront fusionnées

Les régimes d'assurance (vie-groupe, protection contre l'invalidité et les frais d'administration) organisés par l'Association dentaire canadienne et l'Association dentaire de l'Ontario seront joints en un seul programme. Cette décision, qui a été annoncée du Congrès national de l'ADC, met fin à des négociations prolongées qui avaient pour but de fusionner les régimes des deux associations.

Les primes du nouveau programme ne cèderont en rien aux primes des régimes actuels. La protection dont jouissent à présent les membres qui sont assurés avec les assurances-groupes de l'ADC et de l'ADO continuera automatiquement sous le nouveau programme sans aucune réduction des bénéfices.

Les régimes fusionnés seront souscrits par les compagnies d'assurance Laurier Life, Imperial Life, Mutual of Omaha et Continental Casualty. Les primes seront perçues par les Régimes de service dentaire inc. (Canadian Dental Service Plans Inc.). Cet organisme procurera également un service limité de consultation sous la direction du nouveau Comité permanent des assurances commerciales de l'ADC.



C'est avec ce parchemin célébrant un siècle de dentisterie organisée au Québec que l'on rendit honneur au Collège des Chirurgiens-Dentistes de la Province de Québec et à ses membres lors du dernier congrès national de l'Association dentaire canadienne. L'ancêtre du Collège, l'Association dentaire de la Province de Québec, fut incorporée le 30 mars 1869.

Tous les soins de santé pourraient être payés d'avance aux USA d'ici 1980

Le président de l'Association dentaire américaine prédit que pratiquement tous les soins de santé offerts aux Etats-Unis seront payés d'avance d'ici 1980. Hubert A. McGuirl a fait cette prévision au dîner de l'ADC donné le 11 juillet.

"D'ici 1980 nous devons remplacer le traitement par la prévention", a-t-il dit, "sans quoi nous serons débordés par la carie dentaire. D'ici 1980, nous devons découvrir un vaccin qui prévienne, ou au moins qui diminue la carie dentaire. D'ici 1980 il nous faut découvrir un revêtement qui rende la surface de la dent imperméable aux agents qui causent la carie dentaire. Et d'ici 1980 il nous faut découvrir un moyen de fournir tout un ensemble de soins de santé au peuple américain, et ce du berceau à la tombe, indépendamment de leur capacité de payer".

Le Dr McGuirl a ajouté qu'on endoctrine les Américains à l'idée que les soins complets de santé constituent un droit naturel. "Nous avons moins de 10 ans pour résoudre le problème . . . et si d'ici 1980 nous n'avons pas réussi, les professions

de la santé ne deviendront rien d'autre que des organisations sociales", a-t-il dit.

"J'ai eu affaire avec le monde ouvrier, avec le monde des affaires et avec le gouvernement pendant les huit années que j'ai passées dans les cadres de l'ADA", a dit le Dr McGuirl. "Je suis directeur de l'Association nationale des régimes de service dentaire aux E.-U. J'ai eu affaire avec ces personnes, et ni le gouvernement ni la classe ouvrière ne me font peur. Si quelque chose vous arrive ou m'arrive, ce sera à cause de notre propre apathie, à cause de notre propre incapacité à prendre des décisions, à cause de notre propre désir de préserver un statu quo que nous ne pouvons maintenir".

Le président de l'ADA a ajouté que la profession dentaire ne pouvait se permettre d'épuiser ses ressources financières en concurrence avec le monde ouvrier ou avec le gouvernement. "La seule solution sensée . . . c'est de s'asseoir avec des personnes compétentes . . . et d'essayer de résoudre le problème qui consiste à fournir à tout le monde des soins dentaires complets. Si nous le faisons, nous réussirons".

Lancement de la doctrine de "L'union par la communication"

Le congrès national a mis sur pied une nouvelle plate-forme de ralliement afin de convaincre chaque dentiste du besoin d'une organisation nationale vigoureuse. Ce programme veut diffuser les mesures que l'ADC prend en ce moment au nom des dentistes canadiens, et ce qu'elle espère accomplir pour lui et pour l'art dentaire si elle a son plein appui. Il fera ressortir les avantages dont profiteraient le dentiste et le public.

Au cœur de ce projet se trouve une structure intégrée de communication comprenant un congrès national renouvelé, des rencontres avec le président de l'ADC aux réunions des sociétés locales, un bureau des orateurs de l'ADC, un Bureau d'information au public ravivé, une refonte du Journal, des Délibérations et des autres publications de l'ADC, et un programme élargi pour les étudiants. On envisage également des mesures visant à améliorer les relations avec le public, à cultiver la presse, la radio et la télévision, et à faciliter des contacts plus étroits avec le gouvernement fédéral en ce qui concerne les décisions et les législations qui touchent la dentisterie.

Ces recommandations nous sont parvenues de la firme Carleton, Cowan Public Relations, qui avait dernièrement complété une enquête à travers le Canada sur l'attitude des dentistes à l'endroit de l'ADC.

L'avenir de la profession dentaire au Québec

Le Dr Marcel Archambault, président du Collège des chirurgiens-dentistes de la province de Québec et le Dr Roch Boivin, ministre d'Etat à la Santé ont tous deux tenté de dépeindre l'avenir de la profession dentaire au Québec, lors du déjeuner du centenaire du Collège pendant le Congrès de l'ADC.

Le Dr Archambault a notamment déclaré:

"Demain, le praticien solitaire disparaîtra pour faire place à des groupes de dentistes spécialisés entourés d'un personnel auxiliaire compétent.

Demain, nous aurons des services dentaires dans tous les hôpitaux où notre reconnaissance est maintenant officielle dans le Québec.

Demain, nos facultés seront appelées à donner des cours post-scolaires, à faciliter des cours de recyclage, toujours en vue de mieux servir le public et la profession.

Tout ceci devra se faire dans la plus parfaite harmonie sans jamais oublier que c'est la responsabilité de la profession seule de le faire et non à l'état de nous l'imposer. Il nous incombe de prendre cette initiative et de conserver notre autorité et la liberté de notre action."

Pour sa part, le Dr Boivin a déclaré que son ministère continuera ses efforts pour favoriser la fluoruration de l'eau de consommation. Il a également fait appel à la compétence des chirurgiens-dentistes pour aider le gouvernement à "trouver des solutions nouvelles", car, a-t-il ajouté, "le statu quo n'est plus permis et le meilleur moyen de faire partiellement échec à la vogue de socialisation qui nous submerge, c'est de faire preuve d'esprit de nouveauté et au besoin d'esprit d'invention". Le ministre a également ajouté qu'il est "important que les professions de la santé se disciplinent elles-mêmes" et établissent des plans volontaires de distribution géographique et qualitative de leurs effectifs.

L'Association

L'ADC obtient une exemption de taxe sur les matériaux pour empreinte

Les matériaux pour empreinte sont maintenant exemptés de la taxe de vente fédérale! Cette décision, annoncée le 6 juin par le ministre du Revenu national, M. J. P. Côté, signifie que les dentistes canadiens épargneront 12 pour cent (\$60,000) sur la somme approximative de \$500,000 qu'ils dépensent chaque année pour l'achat des matériaux pour empreinte.

Les officiels de l'ADC avaient demandé au gouvernement de lever la taxe de vente fédérale aussi bien sur les articulateurs que sur les matériaux pour empreinte lors de leur rencontre avec le

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association dentaire canadienne étaient les suivantes au 31 juillet:

Fonds d'obligations gouvernementales \$13.851;

Fonds d'obligations corporatives \$14.835;

Fonds d'actions ordinaires \$23.119.

L'avoir total (valeur marchande) du régime se montait à \$8,803,509.93.

Au cours du mois précédent, les transactions d'actions ordinaires ont été les suivantes: achat Royal Trust Guaranteed Investment Receipt 7¼ pour cent dû le 7 août 1969 pour le montant de \$300,000.

Pour de plus amples renseignements, veuillez écrire à: The Administrator of CDA-sponsored Pension and Insurance Plans, Professional and Industrial Pensions Ltd., 2249 Yonge St., Toronto 295, Ont.

cernant le test d'aptitudes dentaires de l'ADC pour 1970. Ces brochures renseignent sur les pré-requis nécessaires aux études dentaires, sur la formation professionnelle, sur le programme du TAD, sur les dates du test (9-10 janvier et 3-4 avril 1970), sur les façons de procéder, les endroits de séances des tests, les rapports du test, ainsi que les frais encourus. Le Conseil d'enseignement dirige cette fonction importante que remplit l'ADC.

A l'aide de ces tests, qui sont exigés ou recommandés par chaque faculté dentaire canadienne, il est possible de prévoir, avec une assez grande précision, les chances de succès du candidat dans ses études dentaires. Les résultats de ce test complètent la documentation nécessaire à l'admission du candidat au sein d'une faculté dentaire. On peut se procurer des exemplaires de ces brochures en écrivant à l'adresse suivante: Test d'aptitudes dentaires, Association dentaire canadienne, 234, rue St-George, Toronto 180, Ont.

Le Canada

Le Dr McIntosh représente l'ADC auprès des médecins et des infirmières

ministre le 4 mars dernier, mais le gouvernement, n'a pas encore accédé à cette requête de notre Association.

Cependant, M. Côté a déclaré que les techniciens dentaires peuvent à l'avenir se procurer du plâtre, du plâtre-pierre et des articulateurs et ce, sans payer la taxe de vente, pourvu que ces matériaux soient utilisés directement dans la manufacture d'appareils de prothèse. Pour ce faire, les techniciens doivent présenter un certificat à cet effet aux fournisseurs canadiens ou aux bureaux de douanes où passe cette marchandise.

Brochures sur le test d'aptitudes dentaires pour 1970

L'Association dentaire canadienne vient de publier de nouvelles brochures, en anglais et en français, à l'intention des candidats à la première année de chirurgie dentaire des facultés dentaires canadiennes, leur donnant tous les détails con-

L'Association dentaire canadienne a été officiellement représentée par notre secrétaire, le Dr W. G. McIntosh, à l'assemblée annuelle de l'Association médicale canadienne à Toronto, du 7 au 13 juin, et au 14e Congrès quadriennal du Conseil international des infirmières, à Montréal le 22 juin. Le congrès a été officiellement inauguré par le Gouverneur-général, M. Roland Michener. Plus de 12,000 infirmières venant de 58 pays, parmi lesquelles plusieurs portaient leur costume national, s'étaient rassemblées au Hall Concordia de la Place Bonaventure pour les cérémonies d'ouverture.

Le Collège international honore Wilder Penfield

Le neurochirurgien montréalais de renommée mondiale, le Dr Wilder Penfield est devenu membre honoraire à vie de la

Section canadienne du Collège international des chirurgiens-dentistes. Treize dentistes ont été installés comme membres du collège à la convocation annuelle, tenue le 10 juillet à Montréal: Col. L. G. Craigie, Forces armées canadiennes, Borden, Ont.; Col. G. R. Covey, Ottawa; J. A. Giroux, Sherbrooke, Qué.; A. H. Lane, Edmonton; R. M. Lyn, Kingston, Jamaïque; J. C. Waddell, Calgary; et Herbert Caplan, R. W. Faith, L. E. Francis, J.-P. Lussier, J. J. McCarthy, P. C. Staples et H. L. Mussells, tous de Montréal.

W. J. Riley, de Winnipeg, succède à J. A. Fortier, de Montréal, comme président de la Section canadienne. Les autres membres de l'exécutif sont: C. M. Purcell, Pembroke, Ont., président désigné; Louis Bernier, Québec, vice-président; H. R. Skilling, Toronto, trésorier; E. A. White, Toronto, registraire et E. M. Wansbrough, Ottawa, rédacteur.

Le Collège international des chirurgiens-dentistes possède des sections dans la plupart des pays du monde et fut créé pour honorer les membres de notre profession qui ont apporté une contribution évidente et méritoire à l'art et à la science dentaires.

On propose un timbre poste en l'honneur de H.K. Box

Une suggestion a été faite par écrit dernièrement au ministre des Postes, M. Eric Kierans, par M. Robert Ward du "Public Relations Associates" de Toronto, demandant au ministère des Postes d'émettre un timbre à la mémoire du Dr H. K. Box et honorant ainsi la profession dentaire.

M. Ward a félicité le ministère des Postes d'avoir mis récemment en circulation un timbre en l'honneur de l'illustre médecin canadien, Sir William Osler. "Dans la même optique," a écrit M. Ward, "je pense qu'il est opportun que la direction des postes honore un autre éminent homme de science canadien qui mérita à son pays une reconnaissance internationale, et dont les réalisations importantes dans le domaine de l'art dentaire ont valu au Canada une place de choix à travers le monde. Il s'agit de Harold Keith Box, père de la périodontologie moderne".

En tant que professeur à l'université de Toronto, le Dr Box n'exerçait que quelques heures par jour, passant tout le temps qu'il lui restait à la recherche clinique et en laboratoire ce qui, comme le souligne M. Ward, amena des découvertes importantes qui aujourd'hui aident les dentistes à soigner les maladies périodontiques.

Chronique Internationale

Le Québec aidera à former des spécialistes gabonais

Dans un communiqué conjoint, le ministre de l'Education nationale du Gabon, M. Benjamin N'Goubou et son homologue québécois, M. Jean-Guy Cardinal, ont annoncé qu'à "la demande du gouvernement gabonais, les autorités québécoises participeront à la mise en œuvre d'un centre universitaire des sciences de la santé à être créé à Libreville". Le Québec fournira des experts, dont le nombre n'a pas été précisé, qui travailleront pendant deux ans à la mise en œuvre de ce projet.

Durant ces deux années, les facultés de médecine des universités du Québec ainsi que les CEGEP dispensant des cours spécialisés dans les techniques para-médicales prépareront des étudiants gabonais à prendre la relève des spécialistes québécois envoyés à Libreville.

M. Cardinal n'a pas voulu préciser le coût d'un tel programme de coopération. Il a assuré cependant que son financement proviendrait du budget consacré à la coopération avec l'étranger au cours du présent et du prochain exercice financier.

Accroissement de la capacité professionnelle du chirurgien-dentiste français

Le gouvernement français vient de passer un nouvel arrêté de loi qui reconnaît aux chirurgiens-dentistes qualifiés la même capacité professionnelle que les stomatologistes. Cet événement a été grandement facilité par les travaux du Comité de liaison des praticiens de l'art dentaire de la CEE (Communauté européenne économique) et donne une victoire aux chirurgiens-dentistes français dans la lutte

qu'ils mènent contre la discrimination dont ils souffrent de la part des médecins.

Organisation collégiale de recherche implantaire

Une nouvelle association scientifique vient d'être créée: l'OCRI, "Organisation collégiale de recherche implantaire", dont le siège social est: 237 et 239, avenue Daumesnil - Paris 12^e, France. Cette association se consacre exclusivement à la recherche scientifique dans le domaine implantaire pris au sens le plus large du terme, à la communication de ses travaux, à la formation de chercheurs.

Son Bureau est constitué par: M. G.M. Combres, président; M. J. Meyer, secrétaire général; M. M. Charon, secrétaire-adjoint; M. P. Farcy, trésorier.

Sa vocation scientifique la place dans la tradition de la recherche française en dehors de toute dépendance scolaire, technique ou philosophique, sans pour autant rechercher l'isolement à l'égard des activités scientifiques voisines ou complémentaires avec lesquelles de larges échanges sont déjà établis pour certaines, et souhaités pour les autres; l'OCRI a reçu les encouragements du Groupement des Sociétés Scientifiques Odonto-Stomatologiques de France.

Tout chercheur peut appartenir à l'OCRI sans distinction de titre ou de formation, sous réserve qu'il remplisse deux conditions: (1) être parrainé par deux membres titulaires de l'association; (2) entreprendre une recherche précise seul ou en équipe.

La cessation de l'activité scientifique d'un membre entraîne sa démission, l'association ne pouvant être inactive. L'appartenance à l'OCRI est donc très stricte et directement en rapport avec les buts précis de l'organisation.

La direction de l'association est collégiale et reflète les structures internes du réseau de recherche, qui est conçu pour permettre une activité scientifique coordonnée entre les chercheurs éloignés et diversifiés, et pour s'adapter aux difficultés de la recherche dentaire en France.

L'ensemble de l'activité scientifique repose sur 13 départements représentant chacun une discipline et regroupant les

chercheurs de même spécialité et leurs équipes. Chaque département élit son chef de département; les chefs de département constituent le Comité Directeur de l'OCRI.

Sur les 13 départements créés, huit sont en activité. Les confrères désirant entreprendre ou poursuivre une recherche implantaire coordonnée avec le programme de l'OCRI peuvent se faire connaître en s'adressant au siège de l'association.

Les organisations scientifiques qui désireraient établir des échanges avec l'OCRI ou lui soumettre des recherches sont les bienvenues.

Le service bibliographique de l'OCRI lance un appel à tous les confrères qui peuvent le faire, de bien vouloir lui adresser, à titre confraternel, les données bibliographiques françaises et étrangères connues d'eux, relatives à l'implantologie en général.

180,000 Américains victimes de lésions traumatiques de la face

Plus de 180,000 Américains ont été défigurés l'an dernier, lors d'affrontements politiques, sociaux ou personnels, ou dans d'autres genres de violence.

Une nouvelle enquête menée par la Société américaine des chirurgiens buccaux indique que la plupart des patients exigeant l'intervention des chirurgiens buccaux dans les grands hôpitaux souffrent de blessures plutôt que de maladie.

L'enquête a également révélé que les accidents d'automobile sont les causes les plus fréquentes des blessures au visage.

La fréquence de ces blessures a tendance à diminuer grâce aux ceintures de sécurité et aux autres dispositifs de sécurité. D'autre part cependant, bon nombre de chirurgiens notent une augmentation de ces blessures, augmentation due au plus grand nombre de voitures et de conducteurs, à la vitesse des voitures et à l'encombrement des routes.

En même temps que l'on découvrait que les accidents d'autos étaient la cause la plus fréquente des blessures, on notait aussi que les batailles et les émeutes venaient en seconde place dans l'ordre de fréquence, les chutes en troisième place, les accidents qui arrivent à la maison en

quatrième, les accidents sportifs en cinquième, et les accidents de travail en sixième place.

Examen des diplômés étrangers aux E.-U.

Le Bureau national des examinateurs dentaires des E.-U. (qui correspond au Bureau national d'examen dentaire au Canada) a accepté d'examiner les diplômés dentaires étrangers qui sont éligibles à la licence en Californie. Cette mesure fait suite au projet de loi que les deux sociétés dentaires d'état de la Californie avaient fortement appuyé. La nouvelle législation permettra aux examinateurs d'évaluer les diplômés dentaires étrangers en vue de décerner une licence californienne à ceux qui répondent aux mêmes normes de performance que l'on exige des diplômés des facultés américaines et canadiennes.

Les diplômés des institutions dentaires étrangères qui subiront l'examen recevront un dossier de leurs résultats qui ne devra pas être confondu avec le bulletin habituel que fournit le bureau national. Le certificat du bureau national est réservé aux candidats diplômés d'une faculté accréditée et qui ont réussi aux examens du bureau national.

L'économie

Les dentistes se sont de nouveau classés quatrièmes dans l'échelle des revenus

Selon le ministère du Revenu national, les dentistes exerçant en cabinet privé se sont de nouveau classés quatrièmes dans l'échelle des revenus pour l'année 1967. On a compté 5,108 dentistes travaillant à leur compte dont le revenu moyen est de \$18,272 et la moyenne d'impôt de \$4,208.

Les médecins exerçant à leur propre compte sont de nouveau en tête de cette échelle avec un revenu moyen de \$27,347. Ils sont suivis des ingénieurs conseils et des architectes (\$22,111), et des avocats et notaires (\$22,014).

Cette liste ne comprend pas les professionnels qui travaillent comme employés

salariés, ceux-ci étant classés dans la vaste catégorie générale des employés. Cette catégorie comprend 5,788,100 contribuables dont le salaire moyen se fixe à \$5,300 par année et dont l'impôt moyen est de \$589.

L'association professionnelle propose la création de la profession d'assistante dentaire

L'Association professionnelle des chirurgiens-dentistes a soumis un mémoire au Comité d'étude des professions auxiliaires de la santé à la fin du mois d'août, à Québec.

L'association y recommande la création immédiate, par le ministère de l'Éducation, de la profession d'assistante dentaire ainsi qu'un amendement de la loi dentaire afin de permettre à l'assistante dentaire d'accomplir des actes secondaires qui ne requièrent pas la compétence du dentiste. Le mémoire affirme qu'à peine 10 pour cent des besoins dentaires de la population sont présentement satisfaits et que cette situation est davantage attribuable au manque d'auxiliaires efficaces qu'à une pénurie de dentistes. L'association recommande que les cours pour le personnel auxiliaire soient intégrés aux Collèges d'enseignement général et professionnel—CEGEP.

L'association professionnelle a également proposé:

—L'admission, à l'exercice, des assistantes dentaires qui ont présentement un minimum de trois ans d'expérience dans un cabinet dentaire, après un cours intensif de six mois;

—La formation d'hygiénistes dentaires par leur intégration au cours d'assistantes dentaires avec option "hygiène dentaire publique";

—L'amélioration du niveau de compétence des techniciens dentaires;

—L'amendement de la loi régissant les techniciens dentaires afin de faciliter l'acceptation de ceux qui émigrent au Québec et dont la compétence est reconnue;

—L'amendement de la loi dentaire pour permettre à l'étudiant en chirurgie dentaire de jouir des mêmes prérogatives que l'assistante dentaire.

L'Association professionnelle des chirurgiens-

giens-dentistes insiste sur le fait qu'elle réclame la responsabilité entière de ses praticiens sur tous les soins prodigués par les autres catégories de personnel auxiliaire.

Robert Després présidera la Régie de l'assurance-maladie

Le premier ministre du Québec, M. Jean-Jacques Bertrand, a annoncé la nomination du sous-ministre du Revenu, M. Robert Després, au poste de président de la Régie de l'assurance-maladie du Québec. Le mandat de M. Després, un comptable agréé de Québec, sera de dix ans.

Les autres personnes qui composeront la régie sont les suivantes:

—Représentant le monde des affaires: M. Léon Mondoux, actuaire, vice-président de la compagnie mutuelle d'assurance-vie Alliance; M. Lindsay H. Place, directeur général de Aluminium Fiduciaires limitée;

—Représentant le monde du travail: Mlle Lucie Dagenais, inf.l., conseillère technique auprès de la Confédération des syndicats nationaux; M. Paul Couture, 2e vice-président de l'Union catholique des cultivateurs;

—Représentant les professions de la santé: Dr Auguste Mockel, D Ph, vicedoyen de la faculté de pharmacie de l'Université de Montréal;

—Représentant la profession médicale: Dr Raymond Robillard, président de la Fédération des médecins du Québec; Dr Gérard Hamel, président de la Fédération des omnipraticiens du Québec; Dr Gustave Auger, spécialiste, Hôtel-Dieu de Québec;

—Fonctionnaires du gouvernement: MM. René Bergeron, sous-ministre adjoint du ministère du Revenu, Marcel Cazavan, sous-ministre des Finances, et Gilles D. Bergeron, sous-ministre adjoint aux ministères de la Santé, de la Famille et du Bien-être social.

L'Assemblée nationale a déjà adopté le bill 30 instituant cette régie de l'assurance-maladie. Le projet de loi a été sanctionné le 13 juin.

En vertu de cette loi, la régie aura pour fonction d'élaborer et de mettre en place, avant le 1er juillet 1970, de concert avec le ministère de la Santé et celui du

Revenu et sous l'autorité du gouvernement, les mécanismes administratifs requis pour l'instauration au Québec d'un système universel d'assurance-maladie.

Contributions à l'assurance-maladie

Les contributions qui seront versées à la Régie de l'assurance-maladie à partir du 1er juillet 1970, seront perçues de la façon suivante:

(a) chaque contribuable dont le revenu est supérieur à \$4,000 dans le cas de personne mariée et à \$2,000 pour un célibataire verserait une contribution de 8/10 de 1 p.c. de son revenu net avec un maximum de \$125;

(b) les employeurs contribueraient également 8/10 de 1 p.c. de leur bordereau de paie.

A mesure que les décisions finales seront prises, les employeurs recevront tous les renseignements dont ils auront besoin sur ce sujet.

Faux cas d'assistance sociale: le gouvernement a déjà économisé \$1,200,000

M. Jean-Paul Cloutier, ministre de la Famille et du Bien-être social a révélé qu'après avoir vérifié 45,000 des 150,000 dossiers des assistés sociaux, le ministère en est arrivé à la conclusion, qu'à travers le Québec en moyenne 15 p.c. des bénéficiaires de l'assistance à domicile n'ont pas droit aux prestations qu'ils reçoivent.

La vérification qui a pu être effectuée jusqu'à maintenant a permis d'annuler des prestations pour un montant total d'au-delà de \$1,200,000. Comme seulement un peu moins du tiers des dossiers ont été révisés, le ministère pourrait réaliser des économies de plus de \$5 millions par année. Dans l'échantillonnage qui a servi aux premières expériences, le service du bien-être de la ville de Montréal n'était pas inclus.

L'Ontario participe à l'assurance-maladie

L'Ontario sera la septième province à se joindre au régime d'assurance-médicale à

frais partagés proposé par le gouvernement fédéral.

Le régime d'assurance-maladie ontarien fonctionnera à partir du 1er octobre de la façon suivante:

—Le gouvernement provincial, par l'intermédiaire du Régime d'assurance des services médicaux de l'Ontario (OMSIP), établira un contrat standard d'assurance-maladie dont pourra bénéficier toute personne habitant la province, sans égard à l'âge, à la condition physique ou à la situation financière.

—On pourra se procurer ce régime, établi sur un principe non-lucratif, par l'intermédiaire de l'OMSIP et des agences d'assurances privées.

—Le régime gouvernemental, qui comme le régime actuel OMSIP doit être vendu sous forme de primes à payer, sera le seul régime d'assurance-santé de base disponible, bien que les agences d'assurances particulières puissent y ajouter des prestations supplémentaires si elles le désirent. Les primes de cette assurance-maladie ne seront pas plus élevées avec le plan gouvernemental qu'elles ne l'étaient avec l'OMSIP.

Le premier ministre Robarts de l'Ontario a déclaré que les agences commerciales d'assurance-maladie se sont entendues pour mettre sur pied une compagnie sans but lucratif qui recueillerait et administrerait les revenus provenant de la vente du régime d'assurance-maladie gouvernemental. Ce genre de structure administrative permettra aux agences d'assurances de l'Ontario de continuer à vendre l'assurance-maladie et les employés et employeurs seront à même de négocier la répartition des frais lors de la signature d'une convention collective.

Le projet de loi présenté le 17 juin stipule que toute firme utilisant les services de 15 employés ou plus, doit leur offrir une assurance-groupe. Ceci signifie qu'après le 1er octobre tous les ouvriers ontariens bénéficieront d'un régime de base identique d'assurance-maladie, bien que des avantages supplémentaires et la proportion dans laquelle les primes sont payées par les employeurs et les employés varieront d'un groupe à l'autre.

Cette législation permettra au Conseil d'assurance des services de la santé qui

sera élargi, de consulter sur les taux des primes, sur le pourcentage des honoraires des médecins à payer, ainsi que sur la vérification des plaintes portées à l'endroit du régime.

L'acte demande à l'Association médicale de l'Ontario de consulter le conseil en ce qui concerne les augmentations des honoraires. En ce moment l'AMO informe le ministre de la Santé de ses décisions concernant l'échelle des honoraires. Cette mesure ne révèle pas de la part du gouvernement une volonté de contrôler le montant que les médecins demandent pour leurs services, a expliqué M. Robarts, mais si le gouvernement doit subventionner un régime d'assurance-maladie, il doit négocier le pourcentage des honoraires qu'il aura à payer.

"Delta Dental Plans Assn.": nouveau nom des régimes payés par anticipation aux E.-U.

L'Association nationale des régimes de services dentaires aux E.-U. sera dorénavant connue sous la raison sociale de "Delta Dental Plans Association". Cette mesure a été prise le 7 juin dernier lors de l'assemblée annuelle des membres à Chicago.

Ce changement a été effectué afin de permettre à l'association (fondée en 1965) de s'aligner avec le nouvel emblème "Delta" qui avait été annoncé dans le numéro du mois de mai de notre Journal. Les régimes de services dentaires qui répondent aux normes de l'association nationale auront droit au nouveau nom et à l'emblème.

Certains régimes qui font partie du DDPA emploient déjà l'emblème et la phrase "A Delta Dental Plan" de concert avec leur raison sociale actuelle. D'autres sont à changer leur raison sociale pour "Delta Dental Plan" accompagné du nom de leur état.

La fluoration

Les dentistes de Montréal déclarent la guerre pour obtenir la fluoration

La même semaine où la Grande-Bretagne se joignait au Canada et aux Etats-Unis

pour prôner l'usage de la fluoration, le maire de Montréal, Me Jean Drapeau, déclarait aux dentistes qu'il n'avait pas l'intention d'imposer la fluoration à ceux qui ne le désiraient point.

Ainsi donc, bien que l'Association dentaire canadienne ait réaffirmé, le 9 juillet, son approbation à la fluoration, Montréal risque d'être le dernier grand bastion des forces, jadis puissantes, luttant contre la fluoration et qui se sont opposées aux gouvernements municipaux depuis plus de 20 ans.

Le conflit entre les dentistes et Me Drapeau, qui mijotait depuis des années, a éclaté au mois de juillet lorsque le maire a refusé une demande du Comité de la fluoration des eaux de Montréal et de la Ligue d'hygiène dentaire de la province de Québec d'étendre la fluoration à la grandeur de la ville.

La Ligue a répondu en "déplorant l'attitude du maire Drapeau et du Comité Exécutif" envers la fluoration des eaux, et accusant le maire de se laisser influencer par des personnes mal informées.

Bien que le maire n'ait apporté aucun argument contre les bienfaits de l'eau fluorée, il s'est montré affecté du nombre de personnes qui s'opposent à l'addition de composés fluorés à l'eau potable.

Et bien que le maire aimerait abandonner toute l'affaire, les dentistes de Montréal fument encore de voir l'administration municipale refuser d'affronter le groupe qui s'oppose à la fluoration.

Par dessus tout, les dentistes sont inquiets par le fait que le maire ait succombé à la campagne de pétitions de leurs adversaires, et ce malgré l'évidence écrasante que la fluoration est à la fois sans danger et essentielle pour une santé dentaire adéquate.

L'eau fluorée n'a aucune influence sur l'exercice de l'art dentaire

L'utilisation de l'eau fluorée n'a eu, selon toute apparence, que très peu d'effet sur

l'exercice de l'art dentaire. Voilà ce que révèle une enquête commanditée par le Collège de chirurgie dentaire de l'université de l'Illinois à Chicago.

Les premiers résultats indiquent qu'il existe peu de différence entre l'exercice de l'art dentaire dans les localités qui utilisent l'eau fluorée et celle des localités qui ne l'utilisent pas. Le projet d'étude, qui a duré trois ans et demi, a eu pour objet de comparer les cabinets dentaires dans huit groupes de localités de l'Illinois, de l'Ohio, de l'Indiana, du Colorado et du Texas.

Les enquêteurs s'attendaient à découvrir, selon qu'il s'agisse de localités qui utilisent l'eau fluorée ou non, des variations dans les soins, le nombre de patients et le revenu des dentistes. Ils se sont aperçus plutôt que le nombre de patients qui demandent des soins dentaires était sensiblement le même dans les deux types de localités. De plus ils ont découvert que, contrairement aux prévisions, l'eau fluorée n'influence pas l'âge à partir duquel les enfants rendent leur première visite au dentiste.

Il semble que la fluoration a eu un effet minime sur l'exercice de l'art dentaire parce que l'accroissement de la population a dépassé la disponibilité des dentistes pour s'occuper des besoins dentaires du public, même dans les localités où l'eau est fluorée.

Le gouvernement britannique donne son appui à la fluoration

Après des recherches d'une durée de 11 ans et après avoir suivi de près ce qui se faisait au Canada et aux Etats-Unis dans ce domaine, le gouvernement britannique a déclaré le 9 juillet que l'eau fluorée est sans danger et constitue un moyen efficace pour réduire la carie dentaire. Le gouvernement a demandé à toutes les municipalités d'ignorer ceux qui s'y opposent et de déployer l'usage des services d'eau fluorée.

W. B. (Bill) Ellis, a young dentist who has practised in Elora, Ontario, for the past five years, flew to Nigeria on August 9 on a two year assignment to the University of Lagos where he will develop a department of operative dentistry. He was interviewed about the project shortly before his departure.

DESTINATION LAGOS

Teaching dentistry in West Africa

This story began in April when Dr. Ellis first came to see Dr. W. G. McIntosh, the secretary of the Canadian Dental Association, and asked whether there were any openings for a Canadian dentist interested in teaching or clinical instruction in an underdeveloped country. Dr. McIntosh told him that the Nigerian government had asked the Canadian International Development Agency (CIDA) for a teacher of operative dentistry. The Nigerians wanted a dentist with graduate training and teaching experience. Dr. Ellis was interested even though he did not have these qualifications. "If no one else is available, I am prepared to improve my qualifications by taking short courses before proceeding overseas," he told Dr. McIntosh. The CDA secretary relayed this information to CIDA who, in turn, expressed interest in the young Elora dentist's proposal.

Dr. Ellis spent the next two months visiting universities in Toronto, London, Ontario, and Buffalo, New York. He talked to staff members in the various

departments of operative dentistry, made extensive notes, copied more than 1,000 slides and absorbed as much information as possible. All the while he awaited a firm commitment from Lagos and Ottawa. Confirmation of his appointment ar-



Doctor Ellis



A Canadian teacher instructs students at the University of Lagos.

rived early in July and he began to make preparations for his departure. He also managed to find another dentist to take care of his practice for the two years he expected to be away teaching at the University of Lagos.

Asked what led him to accept the West African assignment, Dr. Ellis said: "I have always been interested in travelling and I like to work at a job while I travel. Travelling as a tourist is an entirely different experience than living in a foreign country, although I know I will be kept busy at the University of Lagos trying to cope simultaneously with paedodontics, crown and bridge prosthodontics, operative dentistry and endodontics."

Dr. Ellis, who graduated from the University of Toronto in 1962, is no stranger to pioneer dentistry. He has worked on the 'Dewline' and also aboard the Canadian government ship *C. D. Howe*, first as a student and later as a dentist immediately after graduation. He thinks that his service in northern Canada may have kindled an interest in overseas assignments.

Asked about what he expects to find at the University of Lagos, Dr. Ellis explained that the dental school started there in 1966 but hasn't graduated any students yet. "It has a five year program like ours," he said. "I understand that the major dental problem in Nigeria is periodontic disease rather than dental caries. I'll try to find out more when I get there. I know very little about the equipment they have. I have studied an outline of their preclinical operative dentistry course but I know very little about the remainder of their program," he added cautiously.

Dr. Ellis pointed out that dental education in Nigeria is probably influenced by British philosophy. "Mind you," he added, "I insisted on being accorded a good deal of latitude in establishing my own teaching methods. These have been adapted from the University of Western Ontario and the University of Toronto. They may differ from British teaching — I worried about that a wee bit — but I've got the green light to establish my own methods as long as I can get sufficient hours."

CIDA

CIDA, which used to be called the External Aid Office, is a Canadian government agency which has about 100 Canadian university professors on assignment overseas. Its total budget for 1969 amounts to \$450 million, but CIDA officials hope to raise this eventually to \$700 million — about 1 per cent of the gross national product.

Requests for Canadian teacher trainers originate from the recipient governments. CIDA tries to find the required people and pays them in taxable Canadian dollars while the recipient government provides free accommodation. At present, CIDA concentrates on sending Canadian experts to train teachers in the underdeveloped nations who can carry on after the Canadians return home.

LANGUAGE AND CULTURE

Local language and customs can complicate the Canadians' task. Dr. Ellis put it this way before his departure: "I have just returned from a week's briefing for CIDA personnel going to various countries in Africa, the Far East and the Caribbean. In some of these places there are confrontations of language and culture. This won't affect me at the university where they use English. It would have been exceedingly difficult, however, if I had had to converse in Yoruba, the western Nigerian language."

As to cultural differences, Dr. Ellis said: "I learned one very important thing at the Ottawa conference: people in the underdeveloped countries need and appreciate our technology, but they dislike having our western culture thrust upon them. I intend to heed this warning."

FAMILY

Asked about how his family reacted to the prospect of losing him for the next two years, Dr. Ellis claimed he had no problem because he is single. His family is used to frequent moves, having lived at different times in the Ottawa Valley, Renfrew, Carleton Place and Almonte. His parents now reside in Preston, not far from Elora where Dr. Ellis practises. A brother, Roger, is an assistant professor at the University of Toronto's Faculty of Dentistry.

As he made the final preparations for his departure, Dr. Ellis said his first stop would be in London, England, to meet Professor Fox Taylor, chairman of the University of Lagos Dental School. Dr. Ellis said he would spend a few days with Professor Taylor visiting various dental schools in London before proceeding to Lagos.

But Dr. Ellis does not intend to forget Canada. "I want to keep in touch with what's going on in dentistry at home," he said, adding that he had arranged with the CDA Records Department to forward the Journal and other CDA mailings to Lagos while he is away.

the Class III gold inlay

how and where to use it

L. W. Beamish, BA, DMD,
New Westminster, BC

The described inlay, which is retained by incisal and gingival grooves, is an excellent restoration for Class III cavities in central and lateral incisors with intact incisal edges. It is particularly useful in situations where the placement of a gold foil restoration is hazardous or the condensation of foil is objectionable or undesirable.

L'incrustation décrite est retenue par des rainures incisives et gingivales et constitue une excellente restauration pour les cavités de classe III dans les incisives centrales et latérales aux bords incisifs intacts. Elle est particulièrement utile dans les cas où la mise en place d'une restauration d'or en feuille est périlleuse ou lorsqu'on objecte à la condensation de l'or.

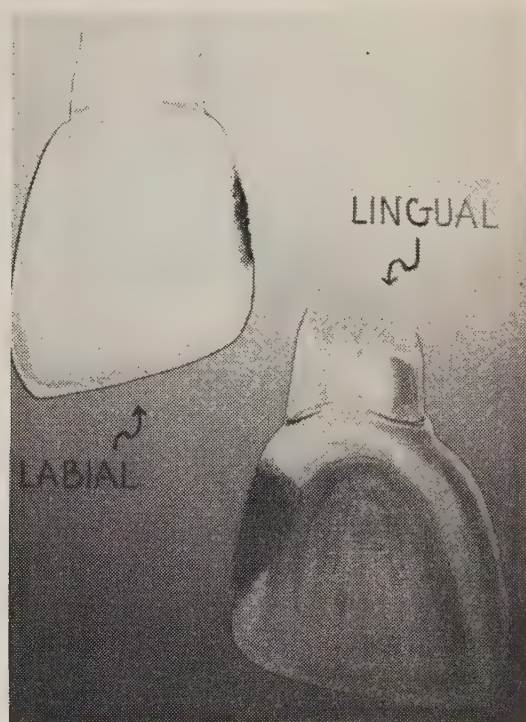


FIGURE 1

One restoration which has been neglected is the Class III inlay. Its application is limited, yet in appropriate cases nothing restores the tooth more effectively and with less reduction of sound tooth structure. This paper describes the indications, limitations and preparation of this restoration.

The Class III inlay has marked advantages in the following situations:

1. Cavities that extend lingually and weaken the tooth structure, making the placement of a gold foil restoration hazardous (Figure 1).
2. Deep cavities where the trauma of condensing gold foil may injure the pulp.
3. Very young patients where the pulp is large and the supporting bone is not sufficiently dense to withstand the pressure of condensation with a mallet.

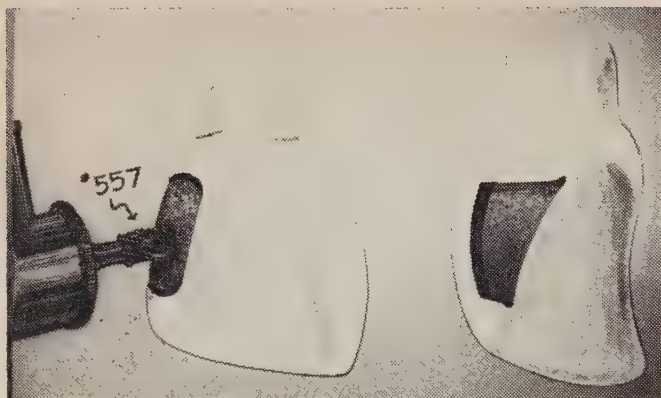


FIGURE 2

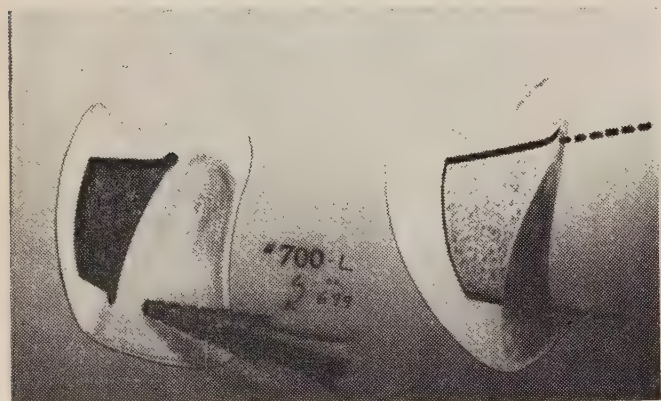


FIGURE 3

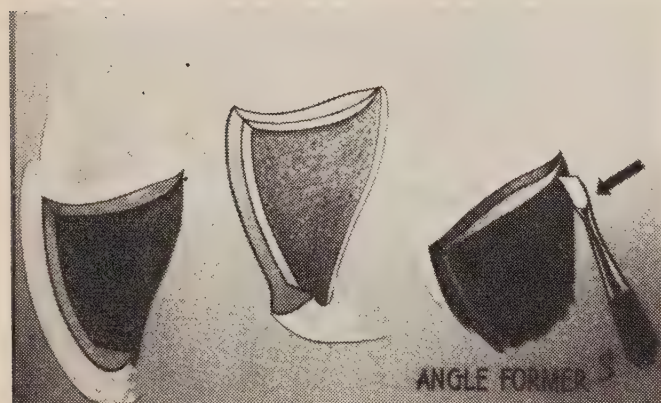


FIGURE 4

incisal edge. The outline is more conservative, however, and requires less cutting.

CAVITY PREPARATION

The choice of instruments is governed by the dentist's personal preference. It matters little how many and what instruments are used provided the final cavity is clean, sharply defined and conforms to aesthetic requirements. I use the following materials:

Burs — 557 cross-cut fissure, 700L or 699 tapered fissure.

Cutting instruments — Ferrier 23,6,25 and angle former 34-35.

Rubber dam equipment.

No. 8 matrix retainer or its equivalent, matrix band, inlay wax, lubricant and wax carvers.

The following steps constitute a suggested procedure which I find simple and convenient.

The labial aspect is opened with a 23 chisel to approximate the required cavity outline. This provides labiolingual visibility for access with burs to the lingual aspect.

The lingual aspect is opened with a 557 fissure bur and the depth of the cavity is extended axially to the diameter of the bur (Figure 2). The cut is extended incisally as far as desired, leaving sufficient tooth structure to provide a strong retentive groove (Figure 3). The cut is extended gingivally so that the inlay margin falls below gingival tissue. The finished incisal and gingival cuts must diverge slightly to permit lingual withdrawal of the wax pattern and inlay (dotted lines in Figure 3). Labial boxing is established with the cutting end of the 557 bur, leaving adequate dentine to support the enamel.

Retention is established with 699 or 700L tapered fissure burs (Figure 3). The short incisal groove is cut first. The bur is then laid flat on the gingival cavity wall and held tightly against the axial wall as the long gingival groove is cut. This groove is planed with the angle former 34-35 to facilitate withdrawal of the wax pattern (Figure 4).

4. Hypersensitive patients who object to the use of a mallet.

5. Where minimal labial extension is desired.

The Class III inlay provides a sound and aesthetic restoration for proximal cavities in upper and lower central and lateral incisors. It is most appropriate when the incisal edge of these teeth is intact. In cuspids its usefulness is limited to teeth that are narrow labiolingually. Cavity preparation for this restorative procedure resembles a Class III cavity with a lingual dovetail and an intact

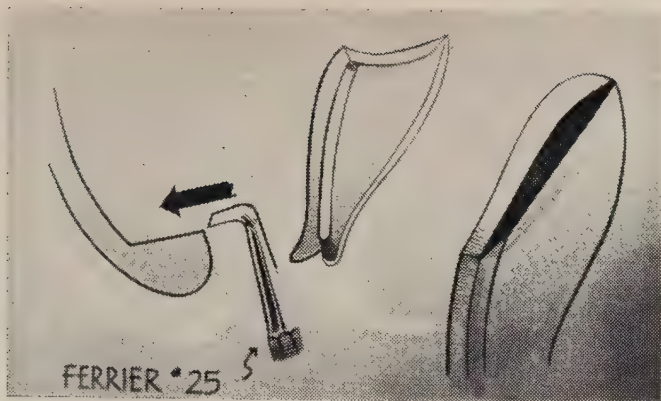


FIGURE 5

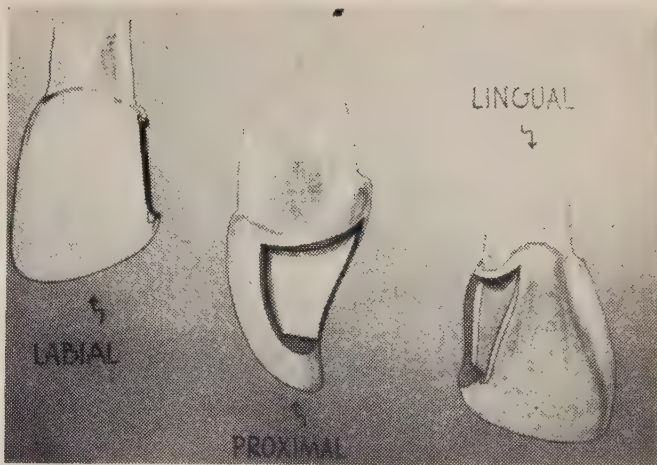


FIGURE 7

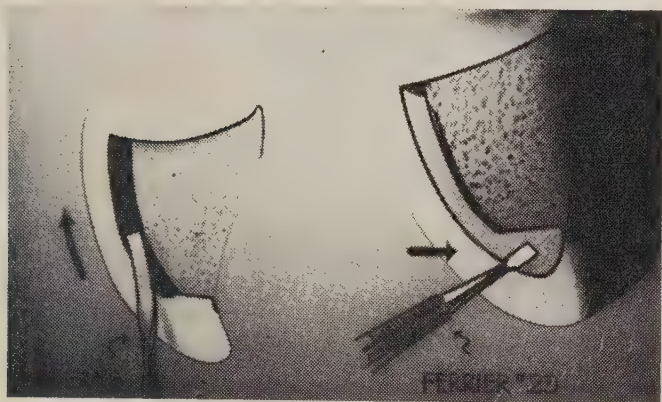


FIGURE 6



FIGURE 8 Class III inlay in an upper right lateral incisor. This restoration, made 15 years ago, is still in excellent condition. The only modification nowadays would be more restricted cutting of the lingual aspect.

The incisal wall is planed with the No. 25 cutting instrument. The cavosurface margins are bevelled, beginning incisally, extending along the lingual margin and across the gingival margin (middle diagram of Figure 5 and Figure 6).

Finally, the entire cavity is planed with a No. 6 cutting instrument. The finished outline should appear as in Figure 7.

WAX PATTERN

The matrix band is placed in the matrix retainer and adapted until it fits the crown snugly, yet will slip on and off the tooth readily.

The cavity is thoroughly lubricated. Inlay wax is heated according to the manufacturer's directions and inserted in the matrix band. The wax surface, in contact with the dentist's finger when he compresses it into the crown, is then chilled with a little cold water for not more than two seconds. Just before compressing the wax, its (opposite) working

surface is restored to a flowing consistency by passing this portion over a flame. This imparts sufficient flow and enables the wax to enter the incisal retentive area. The material is pressed firmly into the cavity. One turn of the matrix retainer's adjustable screw tightens the band and further compresses the wax.

The assembly is thoroughly chilled. All excess lingual wax is trimmed before removal of the pattern. This prevents distorting or dislodging wax during final carving.

The pattern is teased out lingually and mounted on a relatively short sprue. A small quantity of low-fusing wax is carefully added to the proximal (external) surface of the pattern to ensure subsequent contact between the finished casting and the adjacent tooth.

The pattern is invested in a material that ensures maximum expansion and cast in soft gold.

INSERTION OF INLAY

The tooth is isolated with rubber dam before the finished casting is inserted. The cavity is thoroughly cleaned and sterilized. The inlay is then cemented using a smooth, slow-setting mix.

Fine margins are obtained by drawing long, fine cuttle fish strips over the gold toward the enamel.

SUMMARY

The Class III gold inlay has limited but definite usefulness. When appropriately used, it provides a durable and aesthetic restoration (Figure 8).

624 Sixth Street

An effective national organization must speak not only for its members but for the entire dental profession so that the nation and the public would have the benefit of the advice and counsel which only the dental profession is competent to provide. — Harold Hillenbrand, CDA-ADA Joint Session, July 21-22, 1969.

an environment for intellectual development of the dental student

W. G. Young, MSc, BDS, Winnipeg, Man.

At the University of Manitoba some conventional lectures and laboratory instruction in pathology were replaced by programmed exercises which foster a greater 'problem awareness' and encourage students to analyse and resolve the problems posed. Such exercises stimulate a more rational approach to the learning process and displace the more traditional assimilation of theoretical knowledge. They encourage the student to make his own observations, collect and analyse his own data, and improve his inherent power of discrimination.

A l'Université du Manitoba, quelques cours de classe ainsi que des études en laboratoire de pathologie ont été remplacés par des exercices programmés qui favorisent une plus grande "conscience des problèmes" et qui encouragent les étudiants à analyser et résoudre les problèmes posés. Ces exercices favorisent une approche plus rationnelle du procédé d'apprentissage et supplantent l'assimilation plus traditionnelle du savoir théorique. Ils encouragent l'étudiant à faire ses propres observations, à rassembler et analyser ses propres données et à améliorer son pouvoir inhérent de discrimination.

The three main virtues of the western intellectual tradition¹ are (1) the empirical search for truth through observation and verification by experiment, (2) analysis and reasoned explanations of the natural laws of science, and (3) the conviction that men have a claim to liberty and justice. The first two qualities comprise what is known as the 'scientific method,' and it is in the necessary context of the third that the method finds its intellectual expression in the disposition to question the traditional. Nevertheless, dental teachers persist in stressing the assimilation of factual knowledge. Education is equated with lectures, note taking, passive learning and the passing of examinations.

Why is there this premium on reproducible information? The traditionalist answers that 'theory' must first be learned and then applied 'in practice.' Yet this tenet is being increasingly questioned. For example, a recent assessment of electronics maintenance training revealed that the trainees' theoretical knowledge was highest on graduation and declined steadily thereafter; their ability to find faults was poor initially but improved with experience.²

The assumption that adequate training for dentistry hinges on maximum exposure to the theory behind dentistry is

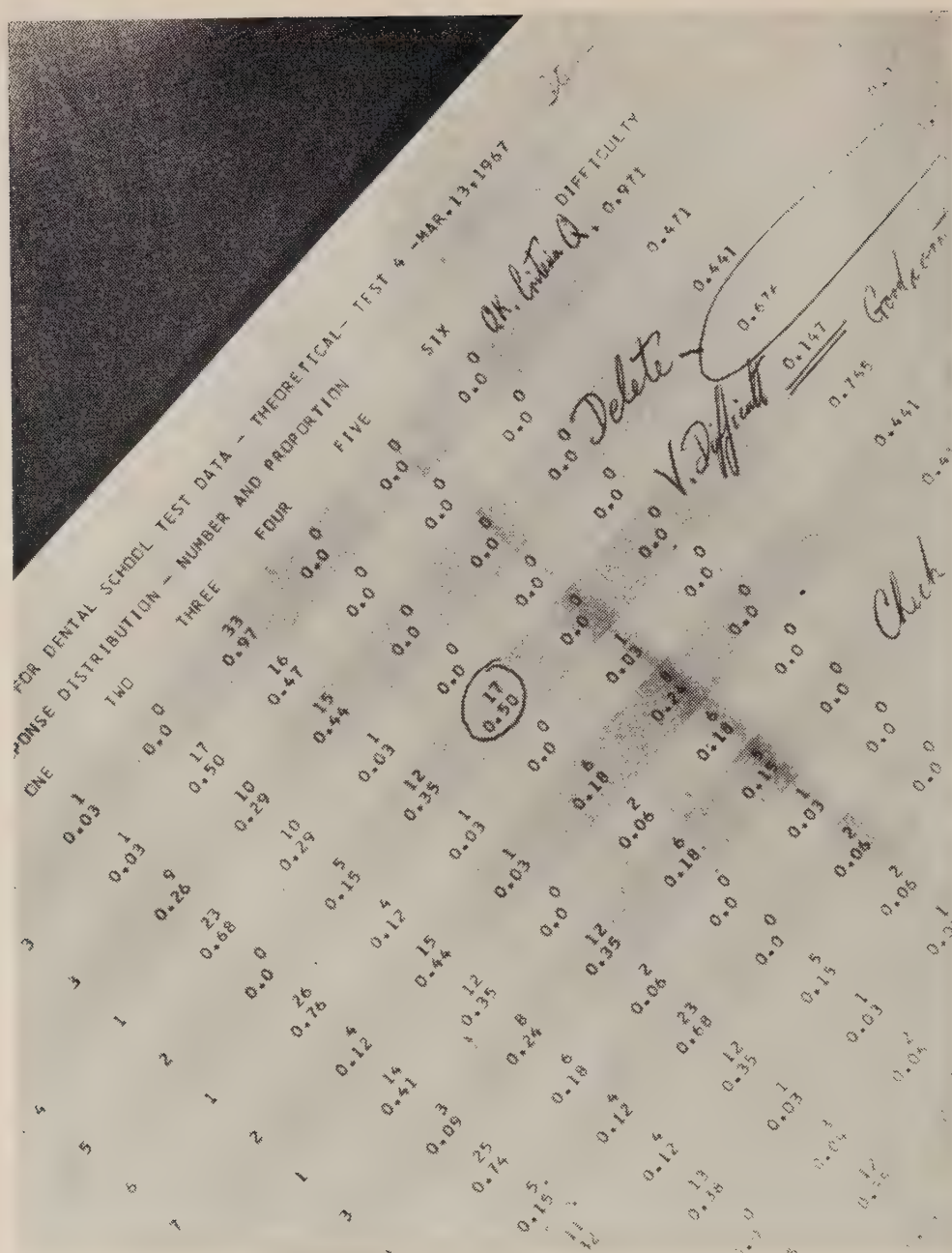


FIGURE 1 Programmed exercises can be readily assessed by computer analysis. The two sets of figures in each row show the number and proportion of students responding to each item in a series of multiple choice questions.

fallacious. Nevertheless, we persist in designing lecture courses that ‘cover the ground,’ yet neglect other tools of training in the scientific method.

PROBLEM EXERCISES

Tools that supersede the lecture include (1) exercises that compel the student to make his own objective observations, collect his own data and develop his own 'problem awareness;' (2) exercises that

require the student to analyse objective data in a variety of 'problem solving' situations; and (3) open-ended exercises of his divergent creative imagination that supplement more traditional deductive and convergent exercises. The latter type is exemplified by the process of diagnosis.

Over the past two years I have prepared short programmed exercises of the first two categories. The topics covered include cell components and disease; cells and viruses, neoplasms and radiation; epu-

lides; chronic periodontitis; radiolucent areas of the jaws; anatomy of epithelial neoplasms; and biological behaviour of neoplasms. These exercises are given in place of lectures and conventional laboratory instruction in pathology.

I use gross pathological specimens, radiographs, microscopic slides, electron micrographs, diagrams and karyotypes. The student is asked a variety of questions on this material. The problems posed are ones of observation, deduction from these observations and the derivation of broad principles of disease. Some of this material is presented in a didactic fashion, but most of the emphasis is on problem solving. The student has to respond as most of the questions are in multiple choice format. He can compare his answers to the desired responses at suitable intervals in the program.

The programmed exercises are reproducible in a sense that lectures are not. Both can be altered and brought up to date, but the reproducibility of a program allows it to be assessed more objectively. Consequently, it can be altered in accordance with measurable criteria.

The individual multiple choice items can be analysed in terms of the following indices: frequency of correct responses; frequency of responses to each distractor; item difficulty and item discriminatory power.³ An example of a corrected computer sheet is shown in Figure 1.

Certain lectures became superfluous when programmed exercises were introduced into the laboratory. The lecture time released in our pathology course over the past two years is shown in Figure 2. Student grades on examination of factual knowledge were not impaired by this substitution.

EXERCISE EVALUATION

A simulated diagnostic problem format was used in the program on radiolucent areas of the jaws.⁴ The student had to solve the details of a clinical case. He elicited the relevant clinical findings by erasing an overlay from appropriate items on a laminated answer sheet (Figure 3). Asked which of a series of diagnostic tests he would perform, this student chose to perform tooth vitality tests.

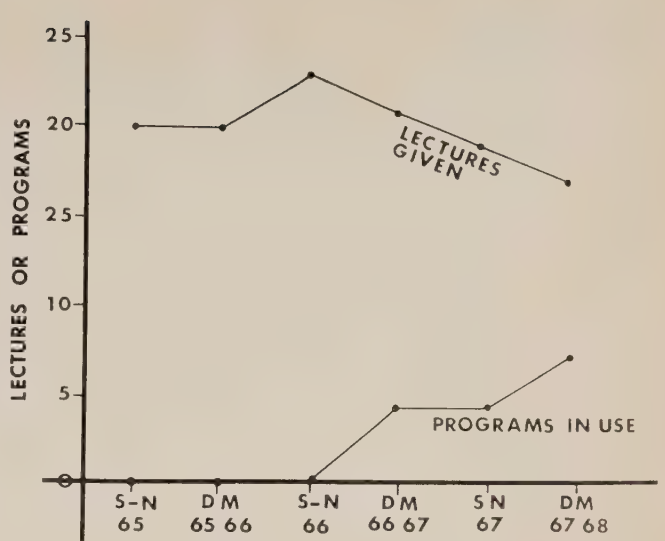


FIGURE 2 Effect of programmed exercises on a lecture program. SN, September to November. DM, December to March.

Radiographs and the microscopic slides of the case were introduced at certain stages of the program. Questions on aeti-

FIGURE 3 Laminated answer sheet used for simulating a diagnostic problem.

CASE I	
Item No.	Item No.
1 Tenderness above /2	26 The tooth and the lesion are now removed. Answer Questions 1-6, Section D on slide #Q
2 2-3 mm crevice	27
3	28
4 Good	29 See Section B (Cont'd) Answer Questions 63-65, on X-ray #1
5 Not /1 3	30
6	31
7	32
8 /2 dull yellow	33
9	34
10 Normal	35
11	36 Answer Questions 1-6 in Section D, on Slide Q
12	37
13 /1 3 normal	38
14 No tenderness	39
15	40 Stimulus 3/ 2/ 1/ /1 /2 /3
16 Normality	Heat + + + + + +
17 /2 opaque	Cold + + + + + +
18 /2 dull sound Not tender	Electr. 6 2 5 1-2 14 7
19 No crack	(See Fig. 1 for Key)
20	
21	
22 /3	
23 /1 mesial and distal	
24 /2 mesial silicate	
25 Go to Item 40	

TABLE 1 A factor analysis of dental student grades in various examinations.

Test	Variable	Factors										Com-munality %
		I Theory	II Proficiency	III Commission	IV Histopathology	V Description	VI Diagnosis dependence	VII Clinical feature association	VIII Diagram	IX Context	X Least important factor	
Theory	1	703								-349		80.6
	2	672				-415						82.6
	3	699										82.4
	4	551	489				409					97.3
	5	824										89.5
	6	831								-356		88.6
	7	812										87.9
	8	795										86.1
	9	489	606				349	368				97.6
	10	931										98.8
Practical	11	693	-502									90.6
	12	638			459							75.7
	13		560		507							82.4
	14	545			510							74.3
	15	838			428							96.3
Epulides (histological) (other)	16	408			449			-396				67.0
	17	561				394		536				93.2
White lesions (histological) (other)	18					354	577					75.9
	19						393			474		82.0
Multiple choice	26	437	-396		-429							66.9
	20		-704			-389						83.9
Radiolucencies	21		674	-408								88.7
	22			778								85.3
	23		-439	-654								85.9
Histological	24									352	-490	78.9
Radiographic	25		-452	555								78.2
Diagram	27			-552					-408		402	91.9
% variability accounted for		32	12	9	8	5	5	4	4	3	3	

Only significant loadings are reported. Decimal points are omitted.

ology, pathogenesis and diagnosis were asked at appropriate points in the exercise. The student was thus presented as total an appraisal of the patient as possible, within the limits of available material.

This test was given to second, third and fourth year dental students during the session 1967-68. No statistically significant difference was found between the grades of the three groups. The senior students' additional exposure to theory had not produced superior achievement in this simulated diagnostic exercise.

FACTOR ANALYSIS

The diagnostic exercise did not test theoretical knowledge as will be seen from Table 1. This figure shows the principle factor matrix of a factor analysis⁵ done on the grades of the same three classes of dental students. The variables are their scores in conventional multiple choice fact testing examinations (variables 1-10), in multiple choice practical exercises⁶ (variables 11-15) and in the exercise on radiolucent areas of the jaws (variables 20-27). Only one small section

of the last exercise (variable 26) correlates with theory (factor I). The remainder of this exercise measures mostly factors II or III; these can be equated with a reasoned empirical approach to the diagnostic problem under study.

This suggests that programmed teaching is more than just another effective means of imparting information. Indeed, we can construct programmed exercises which encourage an empirical and rational approach to the learning process.

TECHNOLOGICAL SOPHISTICATION

The content of problems must give the student new insight. Wherever possible, he should be alerted to the potential of technological innovations and scientific methodology for solving biological and clinical problems, bearing in mind that familiarity with modern research tools like the electron microscope or radio-isotope technology is less important to the trainee dentist than applications of business management techniques to practice administration or of computer analysis to epidemiological studies.

Microfilm libraries and computer programs can store information more effectively than the human brain. These technological aids help us to cope with the explosion of knowledge, and we should encourage our students to use them.⁷

LIBERTY

Liberty and justice have direct relevance to the intellectual environment of the dental student. These concepts clash with the authoritarianism that now prevails in many dental schools where students are often regimented like children in a Dickensian schoolroom. But the university is neither a regiment nor a school. It is a free community of scholars. In a professional faculty, this implies, in my opinion, the treatment of the student as a colleague. Anything less falls short of justice.

Reactionary behaviour by the senior colleague or abuses of privilege by the part-time instructor constitute injustice. Power given to the nurse, the clerk or the chairside assistant to coerce or penal-

ize the junior colleague is responsibility misplaced. The student's freedom may also be restricted by the sheer weight of compulsory course work and lack of free time. Those who oppose free time for students contend that it is wasted whereas compulsory lectures, however bad, are presumably good for the soul.

Such insults to undergraduate intelligence probably stem from a crypto-Calvinistic notion that human nature is intrinsically wicked, a view that contrasts with the pagan ideal of self-development and the fact that human beings can develop what is good in themselves. This capacity is stifled by wearing down into uniformity all that is original and individual in people.⁸

In the field of clinical requirements, for example, we should cultivate a system of real rewards and incentives for imaginative concepts in treatment planning, for well designed and executed restorations and perhaps even for high productivity.

Responsible liberty conferred on the well motivated men who enter the dental profession may transform them from the conservative, ultra-conscientious and unimaginative individuals they now are to the innovative, creative and valued colleagues they should be. Expressed in another way, the intellectual environment of the undergraduate dental student must be enriched by scientific method and responsible liberty to enable him to develop at all.

*Dr. Young is associate professor in the Department of Pathology, Faculty of Dentistry, University of Manitoba, Winnipeg.

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780 Bannatyne Ave.

extinction of bruxism by massed practice therapy

report of case

W. A. Ayer, DDS and E. N. Gale, PhD, Buffalo, NY

Learning theorists consider bruxism a subconscious avoidance response rather than a symptom of deep-seated emotional problems. The habit may be eliminated by forcing the patient to alternately fatigue and relax the muscles of mastication. Repeated biting induces slight discomfort from muscle fatigue whereas cessation becomes rewarding by diminishing the muscle fatigue and associated discomfort. Massed exercises strengthen the practice of not executing the motoric activity, thereby extinguishing the habit.

Les théoriciens de l'apprentissage estiment que le bruxisme est une réaction subconsciente d'abstention plutôt qu'un symptôme de problèmes émotifs profonds. L'habitude peut être éliminée en obligeant le patient à fatiguer puis à relâcher les muscles masticateurs. Mordre de façon répétée provoque un léger manque de confort dû à la fatigue musculaire tandis que s'arrêter constitue une gratification diminuant la fatigue musculaire et le manque de confort qui y est associé. Des exercices répétés renforcent la tendance à ne plus exécuter l'activité motrice et suppriment ainsi l'habitude.

Dentists frequently encounter patients who grind their teeth. Nadler^{1,2} attributes bruxism to local, systemic, psychological or occupational factors. Of the major causes of bruxism, Nadler indicates that a psychological basis is probably the most important. Many psychiatrists and psychologists regard the habit as an expression of unconscious hostility indicative of deep-seated emotional problems. They maintain that permanent cure can only be achieved by psychotherapy; failure to treat in this manner will culminate in substitution of a new source of frustration and anxiety release. But Yates³ contends that there is no scientific evidence for such symptom substitutions.

Interestingly, the effectiveness of mechanical devices employed by dentists to treat bruxism has never been tested in any controlled fashion. The utility of such devices should be highly suspect because patients who are repeatedly subjected to occlusal correction and the wearing of night guards nonetheless persist in the habit.

These consequences follow from adherence to the Freudian psychoanalytic model. But if we regard bruxism as an actual problem rather than a symptom of some underlying emotional conflict, a

relatively simple and effective approach to its elimination becomes apparent.

A habit is a relatively consistent unconscious response pattern to some defined stimulus condition.⁴ Ordinarily, habits are adaptive in that they serve some needs of the organism. When a habit fails to serve these needs, it is generally abandoned or extinguished. Some habits are characterized by their resistance to extinction despite a lack of adaptability.⁵

The learning theorist views tic-type habits like bruxism as unconscious, drive-reducing, conditioned avoidance responses. The motoric movement reduces the stimulus that the individual wishes to avoid. Thus, the habit is very rewarding. By the process of stimulus generalization, the habit is performed whenever there is a specific tension and eventually whenever there is tension in general. Ultimately, the habit is elicited in many situations which are unrelated to the original situation where it was learned. It is often difficult or impossible to ascertain its exact aetiology. However, the learning theory model allows us to treat the symptom and thus relieve or extinguish the disorder without an exact knowledge of the contributory factors demanded by adherence to the traditional medical model.

The method described here was originally discussed by Dunlap⁶ who treated nailbiting, thumbsucking and masturbation (as well as other tics) with massed practice and reported successful cures. His explanations about why the treatment was effective were incomplete, however. In 1958 Yates⁷ published a good theoretical model to account for the effectiveness of massed practice. Yates based his theory

on the concept of reactive inhibition which is related to the notion of a fatigue factor. Forcing the patient to practise a habit until the muscles are slightly fatigued and then having him stop makes perseverance punitive rather than rewarding. Practising the habit causes slight discomfort from muscle fatigue but cessation becomes rewarding by reducing the muscle fatigue and the associated discomfort. With repeated exercise, the practice of not executing the motoric activity is strengthened. This is incompatible with performing the activity. Soon the custom of not doing becomes stronger than that of performing the activity and the habit (bruxism) disappears. This 'negative' practice should be continued until well after the habit is extinguished so as to strengthen the newly acquired behaviour.

Since bruxism is performed on an unconscious level, the habit is commonly unknown to the patient unless it is called to his attention. Our treatment consists of making the patient engage in the habit consciously to tire the muscles of mastication. The electromyographic record in Figure 1 illustrates the considerable activity displayed by the temporalis muscle during such occlusal contact and the normal tonus following muscle contraction.⁸ Prolonged massed practice is fatiguing and cessation gives relief. As a result the habit is extinguished not only during waking hours but during sleep as well.

REPORT OF CASE

A 26 year old white male college student sought treatment for bruxism after his wife complained that the nocturnal

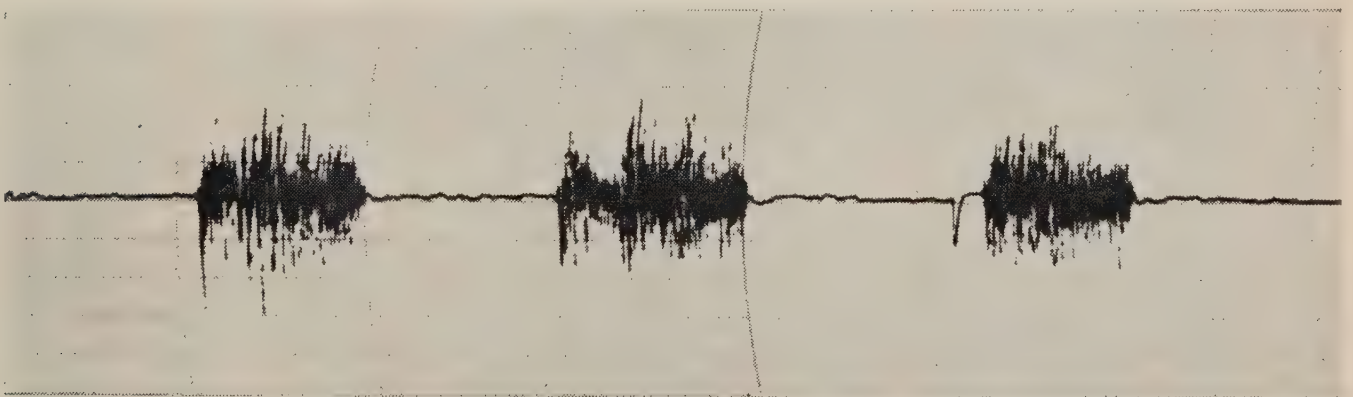


FIGURE 1 Electromyographic record from temporalis muscles of a subject alternately grinding and relaxing for five seconds. Time (vertical lines) in seconds.

	Block I					Block II					Block III					Block IV					Block V					Block VI				
	Clench	Relax	Clench	Relax	Clench	Clench	Relax	Clench	Relax	Clench	Clench	Relax	Clench	Relax	Clench	Clench	Relax	Clench	Relax	Clench	Clench	Relax	Clench	Relax	Clench	Clench	Relax	Clench	Relax	Clench
Day 1																														
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Day 14																														

Name

Other information

Age

Date

FIGURE 2 Chart on which the patient recorded his massed practice exercises.

grinding noises kept her awake. The patient had worn night guards at various times but had found them ineffective. He had also received occlusal adjustment on several occasions.

We explained the principle of massed practice therapy and stressed the need for complete cooperation and adherence to the prescribed schedule for two weeks. The patient was instructed to bite as hard as possible for one minute and then relax for one minute. He repeated this manoeuvre five times in each of six blocks of exercises scattered throughout the day. The exercises were carried out daily for two weeks. At the completion of each series an entry was made on a chart (Figure 2). This served as a reminder to the patient and also recorded the progress of the exercises.

His wife reported that grinding had ceased completely by the tenth night. Nevertheless, he continued to perform the exercises for the remaining portion of the two weeks.

Six months later he was still free of the habit in spite of having endured several unusually frustrating student experiences.

CONCLUSIONS

1. The learning theorist views bruxism, smoking, thumbsucking and nailbiting as

unconscious avoidance responses rather than as symptoms of an underlying emotional conflict.

2. Bruxism may be eliminated by massed practice therapy which forces the patient to alternately fatigue and relax the muscles of mastication. Cessation of the exercises relieves the fatigue and associated discomfort and induces the patient to extinguish the habit.

While preparing this paper the senior author was supported by the National Institute of Dental Research, Training Grant No. DE-170.

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diagnostic value of vitality tests

*G. C. Hare, DDS, FRCD(C),
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A 15 year old high school student came to the University of Toronto dental clinic on February 8, 1968, complaining of pain originating in the maxillary right central incisor. A radiograph disclosed very little abnormality at the apex of the central incisor but did reveal a diffuse area of rarefaction involving the apical third of the root of the adjacent lateral incisor (Figure 1). The lamina dura was definitely raised to the middle third of the root of this tooth.

The affected teeth were given routine electric vitality tests. The pulp of the

central incisor proved to be necrotic while that in the lateral incisor gave a normal response.

Endodontic treatment, without surgery, was therefore performed on the central incisor. The root canal of this tooth was obliterated with gutta percha in a cement sealer on April 8, 1968 (Figure 2).

The patient was re-examined on April 4, 1969. The central and lateral incisors were asymptomatic and the pulp of the lateral incisor responded within the normal range to the electric vitality tester. A radiograph taken at this time showed complete bone repair in the region of the apical third of the lateral incisor. The lamina dura appeared intact (Figure 3).

This report emphasizes the hazard of jumping to a mistaken conclusion on the basis of clinical appearance alone. It underlines the value of routine vitality testing when radiographs disclose periapical rarefaction.

Dr. Hare is associate professor of endodontics at the Faculty of Dentistry, University of Toronto.

FIGURE 1



FIGURE 2



FIGURE 3



book reviews • analyse

Periodontal Therapy

H. M. Goldman and D. W. Cohen. Ed. 4.
St. Louis, The C. V. Mosby Company, 1968.
1072 p. Illus. \$25.30

Unlike its predecessors, this fourth edition is largely the product of many noted contributors.

The opening chapter deals with the normal periodontium. Significant observations about the ultrastructure of gingiva are accompanied by illustrations derived from electron microscopy. Considerable space is devoted to the gingival sulcus and its content. Sulcular fluid is indicative of inflammation; whether this leads to periodontic disease depends upon the immunologic properties of the tissues.

The cardinal signs of early periodontic disease and occlusal trauma are described along with aetiologic theories. Also discussed are inflammation and occlusal trauma which frequently coincide in the same area. The authors regard local irritation as the primary cause of inflammation, whereas occlusal trauma injures the attachment apparatus. Elsewhere they cite the possible simultaneous occurrence of acute necrotizing ulcerative gingivitis and acute herpetic gingivostomatitis, particularly in patients with a highly elevated temperature.

Twenty-five per cent of the content of micro-organisms associated with calculus formation is mucopolysaccharide. The authors therefore conclude that calculus formation is determined by the chemical composition of these bacteria rather than by their enzymatic or metabolic activity.

There is an excellent chapter on examination which presents comprehensive charts for general and periodontic records. The chapter on treatment planning is equally comprehensive. Considerable space is also devoted to initial preparation of the mouth for periodontic therapy.

Under the heading of oral physiotherapy, the authors comment on disclosing wafers, unwaxed dental floss and toothbrushes with soft nylon bristles having rounded ends. Interdental stimulators are also mentioned.

Methods of temporary stabilization and tooth movement are described and illustrated. The present trend is to move teeth into more favourable positions prior to specific

corrective treatment. The section on occlusion deals with selective grinding. The Landmark Relations method is described in detail, but the accompanying illustrations are sparse and lack clarity.

Gingival curettage and gingivoplasty are clearly described and well illustrated. Gingivectomy is outlined along with indications and contra-indications for its use. Alternate procedures are given; these are sometimes indicated in combination with gingivectomy.

One hundred pages are devoted to mucogingival surgery. Included is a classification of flaps and a rationale for the various procedures. Descriptions of fraenotomy and fraenectomy are matched by excellent illustrations. Osseous defects are classified according to the number of remaining walls and the correction of aetiologic factors prior to osseous surgery. The authors advocate routine use of antibiotics before, during and after all forms of osseous surgery. Free soft tissue autografts are briefly mentioned. A technique for their use was being refined at the time of writing.

General practitioners will be interested in the chapter on special problems in periodontic therapy and periodontic prosthesis. Unilateral and bilateral splinting is also discussed. Of periodontic diseases in children, periodontosis has been accorded the most space. Genetic studies in children with this affliction may help to unravel its cause.

This fourth edition of *Periodontal Therapy* is excellent for students and practitioners with a special interest in periodontics. It is also a valuable reference book for graduate students and periodontists.

J. Charlotte Whitney

Craniofacial Anomalies: Pathogenesis & Repair

J. J. Longacre, ed. Toronto, J. B. Lippincott Co., 1968. 420 p. Illus. \$18.00

Due to their mastery over most bacterial diseases, dentists and physicians are now turning greater attention to congenital defects and degenerative ailments. In May 1966 some of the world's leading geneticists, embryologists, biologists and experts in crani-

ofacial reconstruction gathered at an international workshop to probe the causes and treatment of craniofacial deformities. This book contains the formal papers read at this meeting.

Its 44 articles of varying length and level are divided into five parts. The first two deal with causes and the last three with the diagnosis and cure of various anomalies. The aetiology of craniofacial defects is described in eight papers ranging from basic biochemistry through genetics to statistics. There are 11 papers on the pathogenesis of craniofacial anomalies. Detailed observations of various defects and methods for their repair occupy the last three parts of the book which are subdivided into three anatomical sections: the cranium and upper face; the first and second branchial arches which are responsible for development of the mandible and ear; and the upper lip and palate, whose clefting is the most frequent orofacial anomaly. The wide-ranging subject matter and the authors' individual styles make for less than easy reading. The quality and length of the papers range from brief statistical reports to a detailed 28 page condensation of a PhD thesis. Some of the papers have only local geographic interest and offer limited information. The appended references, on the other hand, include much of the non-English literature and reveal how much work is being done in Europe in this field.

Excellent photographs of several extremely rare anomalies illustrate some of the articles. They provide the teacher of orofacial embryology and teratology with an atlas of otherwise unavailable material.

Oral surgeons and orthodontists are most likely to have an interest in this book. Nevertheless, it is regrettable that dentists have hitherto contributed so little to our knowledge of orofacial maldevelopment. The proliferation of cleft palate centres and the founding of a society of craniofacial biology in North America are clear indications of the future direction of interdisciplinary medicine and dentistry. This field should command the profession's special concern. In the meantime, *Craniofacial Anomalies* can provide material for a definitive textbook that remains to be written on this subject.

G. H. Sperber

La recherche au Canada français

Louis Baudouin. Montréal, Les Presses de l'Université de Montréal, 1968. 164 p. \$4.00

Le livre contient les textes des communications présentées au Colloque de la Section des lettres et des humanités, lors de la réunion annuelle de la Société royale du Canada, tenue à l'Université de Calgary du

2 au 5 juin 1968. Les chapitres de ce volume conservent la forme originale des conférences qui exposent avec une rhétorique élaborée un très grand nombre de données sous forme de résumés relativement superficiels. L'approche est conventionnelle, celle d'une chronique qui s'occupe du développement, d'organisation, de problèmes administratifs de la recherche. Les principaux critères pour évaluer la recherche sont le nombre de chercheurs, de subventions et de publications. Parmi les différents domaines traités dans les dix articles, on trouve la recherche médicale; on ne trouve pas la recherche dentaire.

Zdenek Mézl

L'Orthodontie française: Volume 38 — 1967

J. E. Heskia, rédacteur. Paris, J. Prélat, 1968. Edition de la Société française d'orthopédie dento-faciale. 588 p. Illustré. 100F.

Ce rapport de 575 pages contient les comptes rendus du XL congrès annuel tenu à Baden-Baden du 1er au 3 mai 1967 et de la deuxième session annuelle tenue à Paris le 11 novembre 1967.

Une trentaine de communications et vingt sept résumés de tables de démonstration présentent au lecteur une avalanche de sujets d'importance bien inégale.

Le premier rapport traite en détail des lésions traumatiques de la denture chez l'enfant. D'autres communications, pour en nommer quelques unes, abordent des sujets comme: le développement tardif d'une seconde prémolaire supérieure anastrophique; un syndrome cervico-facial peu fréquent: le syndrome de Klippel et Feil; et la rééducation orthopédique de la langue dans le traitement du morsus inversus.

Certains textes sont accompagnés d'iconographie adéquate; d'autres offrent une forme et un contenu à caractère scientifique douteux. Chaque communication est suivie d'une discussion dont les commentaires n'ont souvent aucun intérêt.

La lecture de ce texte d'un bout à l'autre, quoique fastidieuse pour un nord-américain, donne une idée générale du climat orthodontique qui règne chez nos confrères d'outre-mer. Le côté académique de l'orthodontie semble y susciter énormément d'intérêt et les moyens thérapeutiques mis de l'avant sont légions.

Le volume contient de plus la liste des membres de la Société française d'orthopédie dento-faciale, et les discours de circonstance prononcés lors de ces congrès. On y trouve aussi le tableau de la nomenclature adoptée par la Fédération dentaire internationale. Cette terminologie mérite sûrement attention.

L. Bossé

library • bibliothèque

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Above are selected references. Other articles on spherical alloy are available for study.

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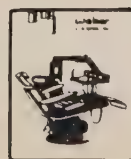
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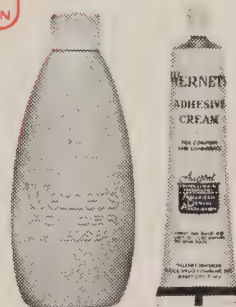
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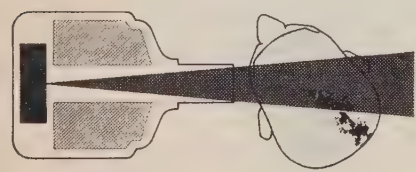
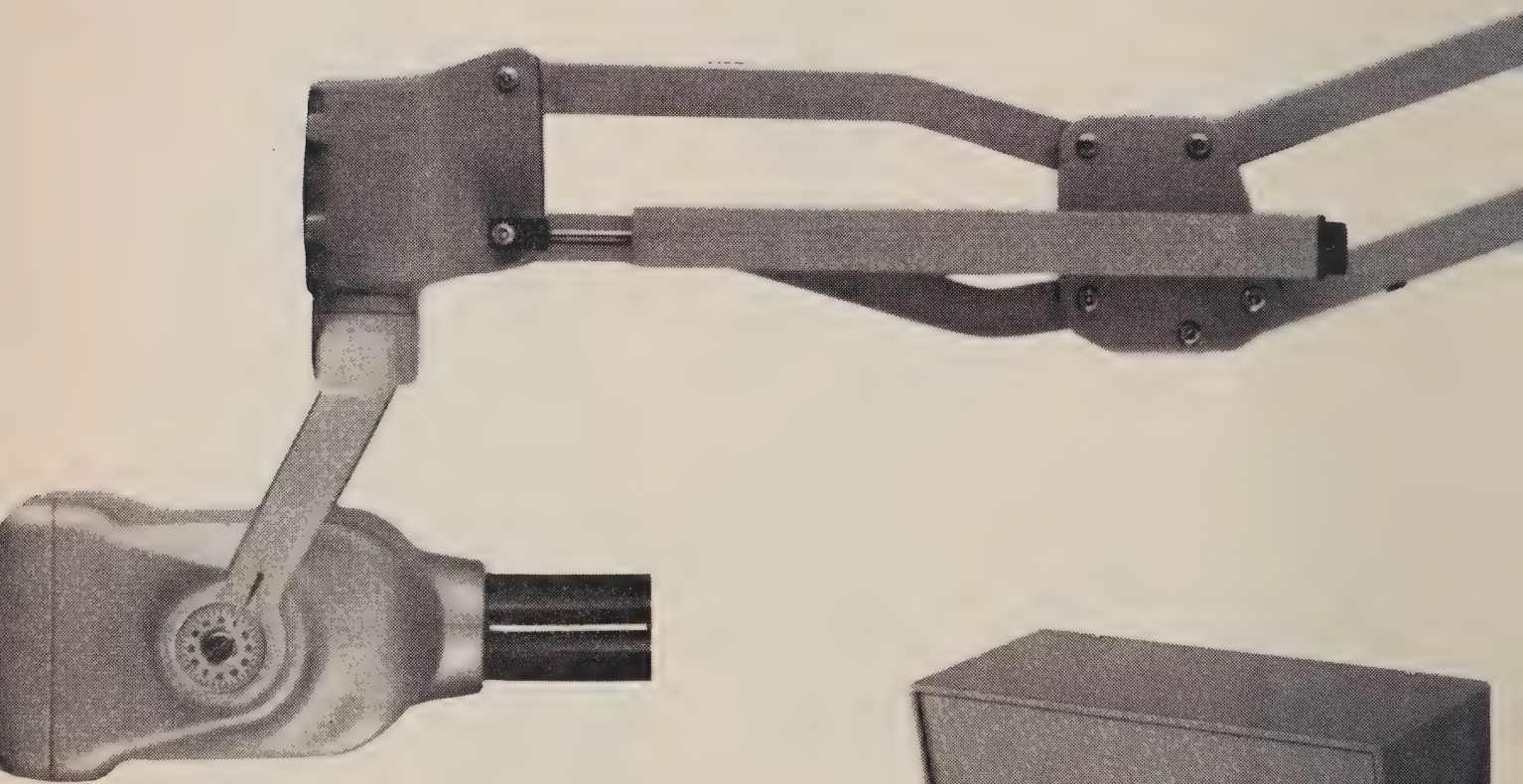
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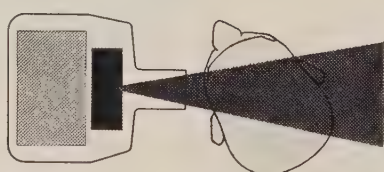
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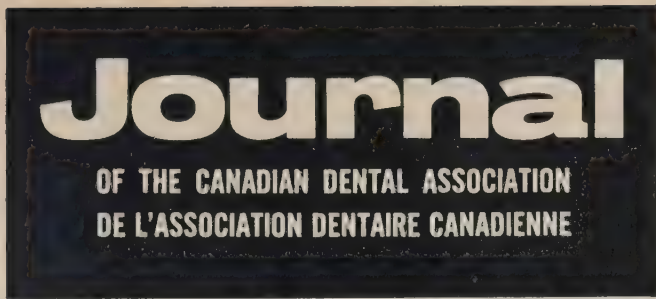
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Published monthly by the Canadian Dental Association at 234 St. George Street, Toronto 180, Ont. Authorized as third class mail, Post Office Department, and for payment of postage in cash (Permit No. C-22). All additions and changes of address should be sent to the Managing Director before the 20th of the month, to become effective the following month. Subscription price \$7 per year. New subscribers should not remit until billed.

All expressions of opinion and statement of supposed fact are published on the authority of the author who submits them and do not necessarily express the views of the Canadian Dental Association, unless such statements or opinions have been adopted by the Association.

Publié chaque mois à 234 St. George Street, Toronto 180, Ont., par l'Association dentaire canadienne. Le ministère des Postes, à Ottawa, a autorisé l'affranchissement en numéraire et l'envoi comme objet de troisième classe de la présente publication (Permis no C-22). Veuillez nous prévenir avant le 20 du mois de tout changement d'adresse pour recevoir le Journal à votre nouvelle adresse le mois suivant. Abonnement: \$7.00 par année. Les nouveaux abonnés voudront bien attendre de recevoir la facture avant de faire remise.

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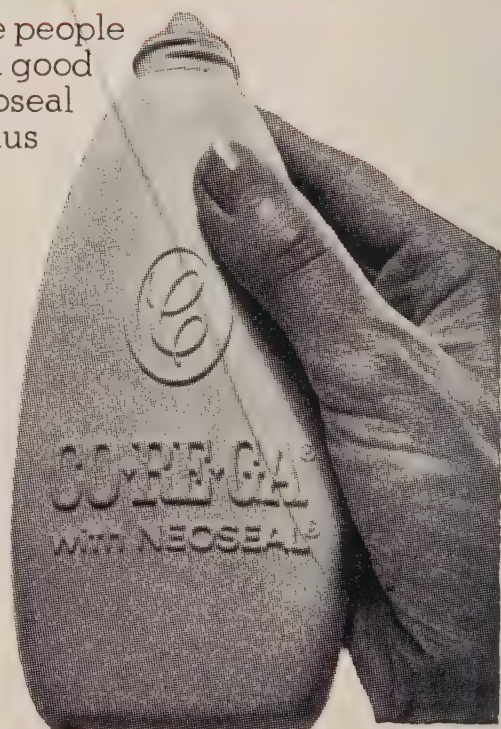
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A new leaf for insurance

The decision to merge the hitherto separate group insurance programs sponsored by the Canadian and Ontario Dental Associations is an auspicious achievement and a gratifying reward for those who negotiated long and patiently to rationalize the plethora of competing plans that have bedevilled us for too long. This happy circumstance did not, of course, arrive by chance. It took countless meetings, great perseverance and a liberal measure of goodwill to hammer out the agreement. Representatives of both associations can take justifiable pride in their efforts and deserve considerable credit for the results achieved.

All CDA members — especially those in Ontario — will now be able to participate in a single unified program of group life, disability, office overhead, liability and other protection offered on the most advantageous terms obtainable anywhere in Canada. This in itself is a highly desirable service. But even more important is the fact that resolution of the simmering insurance controversy removes a major impediment to good relations between the two St. George Street neighbours and heals a festering source of irritation that should never have been permitted to develop in the first place.

The administration of CDA-sponsored group insurance and retirement savings plans has been turned over to Canadian Dental Services Inc. who will collect premiums and contributions and provide a limited advisory service under the direction of the Association's new seven member Insurance Committee. The committee, under the capable guidance of Dr. D. C. Way, will choose the kinds of insurance and the terms of coverage which are most desirable for CDA members and which can be advantageously purveyed on a group basis. It will survey the insurance market, negotiate terms and conditions of contracts with chosen underwriters, and review contracts from time to time in order to gauge their suitability in the light of changing circumstances. This, without doubt, is a most challenging assignment and the committee deserves the profession's gratitude for shouldering such an onerous task.

Insurance can be acquired more efficiently cooperatively than individually; that is one of the basic reasons for having an association. It is therefore to each dentist's advantage to participate fully in such benefits as are offered. The Journal will assist in this by informing him periodically of the services made possible by his membership.

Freedom and fluoridation

Jean Drapeau, Montreal's effervescent mayor, continues to block fluoridation of his city's water — not because of any hostility to the measure — but because he maintains that such a physical obligation should not be imposed on people. Though Mr. Drapeau attempts to preserve the fiction of not opposing fluoridation, he nevertheless refuses to take the only practical step whereby its benefits can be made available to Montrealers.

A special irony attaches itself to this solicitude for individual rights. Far from assuring his constituents' well-being, the mayor's stance places countless young children in positions of extra jeopardy and imposes further financial obligations on their parents.

True, we have no moral right to impose fluoridation, great though the need may be, unless we are satisfied that there is no other way of conferring the benefit. But can the caries problem really be solved or at least substantially alleviated without fluoridation? The answer is a resounding No! For the great majority of children it is now and will be for many years to come a case of water fluoridation or nothing. The moral dilemma, which Mr. Drapeau seeks to skirt, is therefore inescapable. Either he and his constituents accept this harmless increment in daily fluoride intake, or another generation of young Montrealers will be deprived of a benefit they might otherwise enjoy. It is not just a question of whether citizens should be asked to agree but rather whether there remains any morally tenable ground for withholding consent.

Man is a social being and social organization is only possible to the extent that the individual is prepared to subrogate his personal inclinations and desires as may be necessary for the common good. The individual in society is not and never can be free to do entirely as he wishes. The price of social existence is measured in 'freedom,' but freedom is neither static nor fixed. It is organic, capable of growth, so that we may lose one freedom in order to gain a larger one. It is a moot point whether there is such a thing as freedom to have fluoride-free water. But even if there were, it is a freedom that, relinquished, gives on to a larger freedom — a freedom to enjoy better health.

Fluoridation is completely safe and can reduce tooth decay by approximately two-thirds. They know this in Toronto, Winnipeg, Edmonton, Ottawa, Hamilton, London, Windsor, Laval, Halifax and Saskatoon — cities whose water is fluoridated. It is therefore all the more lamentable that Mayor Drapeau, who symbolizes dynamism, progress and imagination, should display such abysmal lack of foresight in a vital health area that ultimately touches all citizens of Canada's largest metropolis.

Devant l'étalage

Un de mes collègues montréalais me confiait récemment: "Qu'il est difficile de choisir les assurances pour mon cabinet et pour ma famille! Comment faire choix intelligemment entre les divers programmes d'assurance que chacune de nos organisations dentaires s'empresse à nous offrir?"

Je suis certain que la plupart d'entre nous ont déjà réagi comme ce jeune dentiste complètement ahuri devant un étalage de polices d'assurance patronnées par les associations locales, provinciales et nationales; sans compter les courtiers d'assurance qui nous bombardent au bureau à coup de lettres et de téléphones.

Une solution vient de naître. La décision de l'Association dentaire canadienne et de l'Association dentaire de l'Ontario de fusionner leurs deux programmes d'assurance groupe constitue une réalisation de bon augure pour ceux qui cherchent depuis longtemps le dénouement de ce casse-tête.

Le premier but de notre Association est de servir ses adhérents. A cette fin, les sept membres du nouveau Comité des assurances, sous la direction du Dr

D. C. Way, ont entrepris la tâche de choisir les assurances les plus avantageuses pour le groupe que composent les dentistes canadiens. Tout le travail d'analyse du marché des assurances, la sélection des compagnies, les négociations pour les conditions les plus profitables, et la révision périodique des contrats seront maintenant accomplis au niveau national par un groupe d'experts. Les assurances et les régimes de retraite de l'ADC seront dorénavant administrés par la Canadian Dental Service Plans Inc. qui percevra les primes et fournira un service limité de consultation sous la direction du nouveau Comité des Assurances.

Il est un fait reconnu qu'il coûte moins cher d'acheter les assurances en groupe plutôt que de le faire sur une base individuelle. On peut donc concevoir facilement que la fusion des petits groupes, qui existent encore, en un programme national de près de 7,000 dentistes canadiens créerait un pouvoir d'achat insurpassable. Quand on ajoute aux avantages monétaires, les services administratifs et consultatifs du Comité des assurances, il est évident que l'Association dentaire canadienne présente aujourd'hui une véritable occasion à mon ami qui se trouve dans l'embarras.

De longues négociations entre l'ADC et l'ADO ont mené à une solution profitable à chacun. C'est maintenant au tour de tous les dentistes canadiens d'en profiter.

Okanagan Dental Card Program

To the Editor:

Having spent several years working in dental public health programs, I was particularly interested in the article on "Group Dynamics in a Dental Public Health Program" in the August Journal. I would like to make some observations that come to mind.

It is seen again in this article that staffing of dental preventive programs is a great problem and places severe limitations on their extent.

In this program, children participate every second year. For many this would be too long a period, and serious dental problems could develop. It may be argued that if children begin to go to the dentist the year they receive the cards, they will likely go on their own in the ensuing year. Some will certainly do so, but I would surmise that most will not. How much more effective would this program be if it could be intensified and carried on yearly for all groups?

I have also some reservations about the dental award day. There are always some children in any given group who, because of lack of parental interest, finances or other factors and circumstances, cannot and do not participate through no fault of their own. Awards which are presented to some of the children tend to stigmatize the individuals in this unfortunate group.

letters • courrier

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association dentaire canadienne. Vous êtes invités à participer à cette section du Journal.

Aside from these few personal observations, I think the program described is an excellent one and the authors are to be complimented. In particular, the extensive publicity and follow-up are handled in excellent fashion. It was gratifying to read of the co-operation of the local dentists in this endeavour. The results shown for the two groups described would certainly warrant the time and effort spent on the program.

Perhaps this article will stimulate similar programs, in other areas across Canada, toward the improvement of the dental health of our population.

*B. P. Martinello, DDS, DDPH,
Chairman, Department of Social Dentistry,
University of Western Ontario,
London, Ont.*

Bur Fracture with Air-Driven Contra-Angles

To the Editor:

In recent years conventional belt-driven engines have gradually been replaced by air motors and micromotors. However, the physical properties of the latter differ from those of the belt-driven contra-angles. This is due to the greater weight of certain air motors and micromotors whose power unit must be located in the contra-angle itself.

I acquired a new air-driven unit and handpiece two years ago. The contra-angle head for this unit is equipped with two different couplers. When I use one coupler, the contra-angle is quite long and delivers about 8,000 rpm. With the second coupler, the contra-angle is shorter and delivers about 15,000-20,000 rpm.

Previously, I used a conventional belt-driven engine for three years and never experienced any trouble with the burs. But I have had several bur fractures with the air-driven contra-angle rotating at 8,000 rpm. The contra-angle has been examined at the factory, but no fault could be found with it. No eccentricity was evident in its components.

However, I believe that the weight of the handpiece may explain the bur fractures. A considerable force F is delivered when the bur blades encounter harder tooth structure or obstacles which prevent their rotation. The laws of physics dictate that force F is countered by an equivalent force F^1 exerted in the opposite direction. Thus, to avoid bur fracture, the contra-angle has to move to the left. The force that moves the handpiece in this direction is F^1 . But $F^1 = m \times a$ (mass $\times$ acceleration). When no bur fracture occurs, the acceleration of the handpiece to the left is only dependent on the rotational speed of the bur. Hence, if the mass of the handpiece is great, the forces F and F^1 are likewise

great. A conventional steel bur may not be able to sustain such force.

A similar phenomenon may occur in high-speed preparations when using carbide burs. Though the high-speed contra-angle is lightweight, the rotational speed of the bur is extremely high (300,000-400,000 rpm). Consequently, when the bur blades encounter an obstacle or harder substance in the tooth, the force F grows significantly and a fracture may occur. When we remove old amalgam fillings, we sometimes feel jerks in the contra-angle. These mark the culmination of force exerted on the carbide bur.

To avoid fracture of carbide burs, I use very light pressure when preparing a cavity. I also incline the contra-angle and the bur in the direction in which the handpiece is being moved in the course of preparing the tooth. To avoid bur fracture with a heavier air-driven contra-angle I now use the fastest available rotational speed and exert extra precautions when using small fissure burs or inverted cones.

I would be interested to know whether any of your readers have had similar experiences.

*Pauli Airaksinen,
Murtokatu 3B37,
Jarvenpaa, Finland.*

Malpractice Arising from Improper Treatment

To the Editor:

The article in the August issue entitled "Orthodontic Misdiagnosis: Report of Case" is very timely. In civil courts there is a specific tort called 'negligence' and malpractice suits are actions of negligence. A precise definition of malpractice is the improper treatment of a patient whereby the patient is injured. In the case history reported by Doctors Woodside and Feldman there appears to be no doubt that if the treatment as outlined by the technician had been followed by the dentist, the patient would have received improper treatment and would have been injured. If legal action were taken against the dentist it would be virtually impossible to defend him successfully.

The lesson to be learned from this fine article is for a dentist to know his capabilities. If a dentist wishes to perform orthodontic services for his patients, this is excellent. The only word of caution is to be sure that he knows what he is doing and that he is not relying on advice from a lesser-trained person behind the scenes. It should be kept in mind that in a malpractice suit, the writ will be issued in the name of the dentist and no one else.

*K. F. Pownall, DDS, Secretary-Treasurer,
Dentists Legal Protective Assn. of Ontario,
230 St. George St., Toronto 180, Ont.*

'Dialogue' is a new feature which appears for the first time in this issue of the Journal. It will deal with issues affecting the Canadian Dental Association and its corporate members. Contributions are welcomed. This month 'Dialogue' presents two different viewpoints on achieving unity within the profession. Doctor R. M. Singer, a member of the Ontario Dental Association's Board of Governors, outlines his opinions in the first article. Doctor H. R. MacLean, president of the Canadian Dental Association, follows with another viewpoint.

Unity: a course of action

R. M. Singer, DDS, Toronto, Ont.

Recently the Executive Council of the CDA engaged the services of a public relations firm (Carleton, Cowan Public Relations) at a cost not to exceed \$10,000 to sample the attitudes of Canadian dentists toward the CDA. Their report, presented to the CDA in June of this year, consisted of three parts: a Summary, an Inventory and Audit of Association Facilities and Members' Attitudes, and a Blueprint for Action. We will refer to this latter document. It is important because it contains the recommendations given the CDA; and further, Carleton, Cowan have been retained, at an additional cost not to exceed \$12,000 over the ensuing 12 month period, to implement its various recommendations. It states in its first sentence "The overall objective of CDA must be to foster and promote *unity* among Canadian dentists."

The following conclusion by Carleton, Cowan appears very near the beginning of the brief: "... regionalism, factions, interprovincial jealousies, the negative attitudes of a small and vociferous minority

— most of all, ignorance of the CDA — will, at the least, continue to prevent CDA from becoming the strong national body it should be"

Granting the need for such a survey for the moment, the above excerpt demands comment. Its implications are startling to say the least. On the one hand, if valid, it paints a highly disturbing picture of Canadian dentistry. Secondly, it indicates that the CDA has indeed fallen short of achieving the aims and objectives that must have been intended when it was founded.

Perhaps the Canadian dental profession is not riddled with dissent and trouble as is indicated in the Blueprint for Action. The report describes the majority of Canadian dentists as: "definitely not anti-CDA . . . even though because of plain human apathy but largely ignorance of the CDA and its aims and objectives, they are distressingly passive." This is even more damning if true; but we do not believe that it is.

It is unusual in any democratic organization that all members are intimately involved in the governmental process. Many have neither the talent nor the inclination; but it does not follow that they do not have the interest. In Ontario, the local dental societies have proven very active and effective as forums in which individual members express their opinions on all matters before the committees and the Board of Governors of the Ontario Dental Association. As a result, the recommendations, motions and proposals put forward and voted upon at all ODA official meetings truly reflect the views of the majority of its members.

Democratic society provides for expression of and argument of differing points of view before a vote; but once the vote is taken the majority view is accepted. In line with this, the members of the Board of the ODA are men whose opinions differ. Each governor votes after thoroughly weighing the facts and views brought out in discussion. It is to the credit of the Board that no cliques or factions have developed, and that each governor makes his judgement on the basis of his interpretation of the facts brought out in discussion and of his understanding of the wishes of those he represents.

In contrast, the CDA seems unwilling to accept this basic principle of the democratic process. For example, the April 1969 editorial in the CDA Journal comments thus on two resolutions passed after full and uninhibited discussion by the ODA Board: "The implementation of these resolutions may be a remote contingency," The CDA seems unable to grasp that a decision has *already been made*. A decision of the Board of the ODA (its supreme authoritative body) is a decision of the dentists of Ontario and must be so recognized.

Returning to the Blueprint for Action, it seems extremely significant that the CDA should employ a group of public relations experts. Some years ago, sensing the need for change within, the ODA called in a team of management consultants (Woods, Gordon). That survey and report resulted in major changes in the organizational structure of the ODA. As a result of this reorganization the individu-

al dentist now feels — and in fact is — more a part of the ODA and part of the decision-making process.

In contrast (as is apparent from their report), Carleton, Cowan has been hired with the money of Canadian dentists to show ways and means by which the CDA can sell itself to the dental profession in Canada. Instead of improving their 'product' they are embarking upon a sales campaign — the money for which can only come from the pockets of Canadian dentists — to change the profession in accordance with the desires of the CDA. In justice to Carleton, Cowan, they have pointed out many of the weaknesses in the CDA. They suggest 'soul-searching' as a proper activity of the CDA Board of Governors. They should, the report states, "examine carefully all of the current criticisms" and "where there is any element of truth, corrective action should be taken."

But what sort of action is suggested? We quote from the report: "In Ontario, the short range objectives are: to prevent any reduction of the Ontario dentist's fee to the CDA; to bring about the raising of the present fee to a level comparable to that paid by Western dentists." This aggressive and belligerent tone carries through all of the Carleton, Cowan report. It is a call to man the battlements to preserve the status quo rather than a Blueprint for Action in the cause of unity. The primary target, too, seems to be Ontario. We quote again: "Efforts should be made to enlist the assistance of the ODA Governors known to be pro-CDA." "... supported by strong, articulate pro-CDA members ..." "A possible danger of one or more of the Toronto meetings is that the audience will be *loaded* by dissenters and the CDA men set up as *fair game*."

If these comments truly reflect the attitudes of the CDA, one is forced to conclude that the CDA believes that the individual dentist is incapable of making sound decisions on his own, that he must be shielded from contamination by 'other ideas,' that confrontation is to be avoided at all costs.

Our experience in the ODA strongly suggests that the individual dentist is to

be trusted, that he is a mature responsible person, that if he is presented with the facts — all the facts and all sides of the facts at the same time — his judgement is likely to be sound. The ODA Journal has always accepted and published differing points of view; its editors have always signed their editorials, and if statements are disputed they are either substantiated or retracted. Regrettably, this has not been the case with the CDA Journal.

We agree, in principle, with Carleton, Cowan that "CDA people must be prepared to take firm stands on any issue, backed by overwhelming facts and sound logic. They must be prepared to defend CDA positions *under fire*, to engage in open forum verbal skirmishes with dissenters and anti-CDA activists before large and small groups of dentists" This sort of action is fair enough; but the emotionally charged language used to describe it is at best unfortunate. Does this language fairly describe those who disagree? Is a member of the CDA who expresses disagreement on policy an "anti-CDA activist?" Pro and anti-CDA is a false issue.

One is tempted to suspect that straw men are being set up to draw attention from the real issue, namely are CDA ideas right or wrong? This is the pertinent question, and it cannot be turned into a battle against the 'enemy.' Problems are not resolved by talking of 'dissenters,' 'anti-CDA activists' and 'vociferous and destructive minorities.' Such smear tactics among educated men are not only unacceptable but useless. We must discuss ideas, not attack persons. We do not see ghosts of geographic, ethnic or racial jealousies lurking behind every tree. To attempt to gain or maintain power by setting brother against brother — a political device as old as time itself — does violence to the profession and discredits those who practise it.

On the level of ideas, then, we agree that there is a great deal of confusion over what activities are the proper jurisdiction of the CDA. Many questions have to be resolved. It is true that there is, as expressed in the January 1969 editorial of the ODA Journal, "a well-defined feeling

that the CDA was making policy statements in the field of provincial jurisdiction and while such statements lack legislative authority they sometimes have an element of coercion and embarrassment for provincial administrators."

Still, this does not mean, as the editors of the CDA Journal contend, that division of responsibilities, maintenance of provincial jurisdiction in matters relating to health, or personal concern over provincial finances constitutes a 'threat' to the CDA. The April editorial in the CDA Journal reported that the ODA had passed the motion, "That, in order to meet existing priorities, we move that the per capita grant to the CDA be set at \$30 for the year 1970." This editorial went on to say, "In translation they seem to say that the ODA will reduce its grant unless the CDA toes the line and conforms to the will of the Ontario Association."

It is difficult for us to see how an honest effort to look after one's own obligations and commitments first can be regarded as an attempt at intimidation of any kind. A look at the relative financial positions of the CDA and ODA proves enlightening. As far back as 1964, the Woods, Gordon Report stated that the CDA surplus, including the reserve fund, had reached \$448,000. Apart from land, building and contents (having a total book value of \$161,000) the surplus consisted almost entirely of bonds and cash.

Comparatively speaking, the ODA has no reserves, yet is in dire need of money for back-up staff, such as economists, statisticians and so on; it needs money to keep up the quality of the ODA Journal and the standard of communication within the profession; it needs money to keep the salaries of the senior staff realistically in line with the rising cost of living. There is one other, among many necessary expenses, to be considered: we must partially reimburse those men who give inordinate amounts of time and special skills in the service of the profession — perhaps by a per diem grant. The list of ODA financial obligations is long and urgent and, we repeat, its reserve position is weak.

Another interesting sidelight to the financial question is that the CDA's own

five year projection shows that the \$65 they are asking for now (and are receiving from some corporate members) will not be needed until 1973, and then only if many more services are provided and more staff engaged than at present. In other words, according to the CDA's own figures they would be substantially increasing their already massive surplus every year until 1973, if they received the \$65 they are asking.

The CDA money comes from grants by the corporate members. This money is derived from the individual dentists' licensing fee which, at the moment, cannot be increased in Ontario. As the CDA's expenses have gone up, so have the expenses of the corporate members including the ODA. If the ODA were to increase its grant to the CDA it would have less money to discharge its own financial obligations. The point is too obvious to be stressed further.

Despite its title, the Carleton, Cowan Blueprint for Action fails completely to come to grips with the true needs of the profession. It does not suggest any positive course of action beneficial to the individual dentist or the associations, local or provincial, which represent him. With this in mind, we respectfully propose the following steps which should be taken to provide true unity in the profession:

1. Meetings should be held at which speakers on all sides of important issues can be heard at the same time.

2. Speakers and writers should confine themselves to issues and avoid personal attacks or smear tactics.

3. There should be a full discussion of important issues at all meetings — local, provincial and national.

4. No effort should be made to force one organization to 'toe the line' or conform to the will of another. At the same time, no organization should publish or espouse any cause which is in opposition to the wishes or stated policies of the organization having a prior responsibility or legal jurisdiction in the specific area.

5. There should be a concerted effort on the part of everyone to arrive at the best possible division of areas of responsibility.

6. The per capita grant to the CDA from Ontario should be stabilized at \$30 until an analysis can be made by representatives of the CDA, the corporate members and outside experts as to the proper division of responsibilities and the amount of money required by each association in order to carry out its tasks. These experts should be management consultants. Public relations people are not the appropriate agents to do this.

In conclusion, we reiterate, in a spirit of fraternity and with a sincere belief in the mature judgement of each individual dentist, that only by complete discussion of all issues and their resolution by the democratic process of debate and majority rule can there be unity in the profession. To quote the great parliamentarian, Winston Churchill, democracy is the worst form of government — except all the others.

Unity: cooperation for a common purpose

H. R. MacLean, DDS, Edmonton, Alta.

Dr. Singer is to be complimented for his diligence in analysing the recent Carleton, Cowan Reports. I would like to add my own observations to present a balanced picture and give the reader a proper perspective.

First, there is the suggestion that the CDA and its Journal seem unwilling to accept a decision of the dentists of Ontario. The April editorial, in fact, commented on *two*, not one, resolutions passed by the Ontario Dental Association last fall — the first being the decision to reduce the ODA's grant to the CDA to \$30 in 1970;

and the other, to review this action after the Aims and Objectives Conference held in February of this year. Clearly, there was no finality about this matter up to April 1969. It is also pertinent to recall that present CDA by-laws (which are still in effect) specify that annual grants to the Association "... shall be determined by agreement among the corporate members..." At the 1968 Board of Governors meeting, at which all corporate members were represented, it was decided "that the annual corporate member grants, in the near future, be calculated on the basis of \$65 per licensed dentist." Ontario's subsequent action departs from this agreement.

Is the CDA really embarking on a sales campaign instead of improving its product? I don't think so. CDA's Five Year Projection and Carleton, Cowan's forthright recommendations are plain evidence of the national association's dedication to the service of its members. We are concerned with their economic well-being. We are equally concerned that the nation which we serve may enjoy the fullest benefit of our labours. To do this effectively, we need full cooperation from every dentist — unity, not fragmentation; dialogue and confrontation, not isolation.

Does the CDA or its Journal really reject viewpoints that do not accord with those of the Association? Surely, the publication of Dr. Singer's contribution is an answer. Moreover, the facts are on record and were clearly outlined in the 1965 *Transactions* (page 132): "The editor believes it is wrong to refuse publication to an article merely because the views expressed therein are not in harmony with the adopted policy of the Association. This does not imply, however, that the Journal must provide an open passport to publication of all articles that purvey opinions and observations of persons who disagree with association policy. Disagreement per se does not constitute adequate grounds for acceptance of a communication which, for good and valid reasons entirely distinct from and unrelated to its departure from established policy, fails to measure up to the standards of suitability for the printed page that are required of any article for publication."

Should the editors sign their editorials? A proposal to this effect was discussed and rejected at the 1969 Board of Governors meeting when it was pointed out that the CDA Journal conforms to the practice of most major scientific publications whose editorials are unsigned unless contributed by someone other than the regular editorial staff. Such guest editorials are always identified in the CDA Journal.

A so-called CDA surplus is advanced as a vindication of the ODA's action regarding the CDA grant. It is alleged that this surplus reached \$448,000 as far back as 1964. In fact, the treasurer's audited report in the 1965 *Transactions* showed a reserve of only \$210,979 at December 31, 1964 — which is less than one year's operating expenses. Forecast for 1970, moreover, is a revenue of \$322,600, expense of \$394,000 and a deficit of \$71,800.

It is also claimed that the CDA's \$65 per capita grant will not be needed until 1973, and then only if many more services are provided and more staff engaged than at present. But the Five Year Projection and Table 5 of that document (1968 *Transactions*, page 110) tell a different story. They show that even if services were reduced this year, the CDA could not meet its costs on the basis of a \$40 per capita grant. To maintain the same services would require a grant of \$47 this year, rising to \$52 by 1973. To provide expanded services, as proposed in the Five Year Projection, would require a per capita grant of \$60 this year, rising to \$67 by 1973.

Finally, there is the suggestion that no organization should publish or espouse any cause which is in opposition to the wishes or stated policies of the organization having a prior responsibility or legal jurisdiction in the specific area. This is tantamount to censorship. It would muzzle any effective discussion and it certainly conflicts with the appeal for "complete discussion of all issues" which Dr. Singer voices in his paper.

I welcome constructive measures advanced in the interest of unity provided such measures are founded on valid observations. Proposals which meet this test can be very forceful and persuasive.

Propose Combines Law Extension to Include Professions

Anti-combines measures should be extended to cover all commercial activities including services such as those of physicians and lawyers, the Economic Council of Canada recommended in July in a report to the government.

Its 244-page study urged that people and industries providing services, rather than products, no longer be exempt from anti-combines legislation.

Exclusion of certain services from anti-combines policy is an anomaly, the report said. Service industries now employ more than half the nation's labour force.

Previous reluctance to extend anti-combines legislation to service industries may have stemmed partly from an unwillingness to interfere with the time-honoured custom of allowing professional bodies to fix their own fees and to control entry into their professions. Moreover, "there is . . . enough evidence pointing to the existence in the service sector of anti-competitive practices detrimental to the public interest to lead to the conclusion that the continued exemption of parts of this sector from competition policy cannot be justified," said the report.

. . . Medicare has drawn attention to fee-setting practices of professional bodies . . .

Emergence of medicare has drawn public attention to fee-setting and other practices of professional bodies, the report said, and "It has become highly appropriate to consider anew why these practices should not be subject to some suitably structured system of checks and balances."

The report proposed that all types of people and companies offering services — both in a professional and non-professional capacity — be brought under the jurisdiction of a competitive practices tribunal which the federal government should create to determine the propriety of business practices.

However, since the tribunal would operate in the area of civil law, which constitutionally is a provincial responsibility, and since professional bodies are incorporated and licensed provincially, the recommendations would presumably also have to gain a degree of acceptance from the provinces. Provincial governments would then have to enact companion legislation for the proposals to become fully operative.

. . . Generally, the competitive market place should determine fees . . .

Specifically discussing the status of professionals, the report said that the open play of the competitive market-place should be the regulating factor in determining professional fees.

But in some instances — and it specifically mentioned physicians and their relationship to provincial government medicare schemes — collective bargaining between the people offering the services and those paying for them might be more satisfactory. This could mean that physicians would have to enter into full scale collective bargaining with their provincial governments the next time they wish to increase provincial fee schedules.

In other situations some professional groups could be permitted to set their own fees if they were subject to government review and ratification.

. . . Government appointed lay members should sit on the licensing boards of the self-governing professions to protect the consumer's interest . . .

As for licensing, the council endorsed the recommendation of the McRuer Royal Commission Report into Civil Liberties in Ontario which proposed that lay members be appointed by the government to sit on the boards of self-governing professional bodies to make sure the consumers' interest is maintained.

If adopted, the recommendations would radically change the relationship of professionals to their patients. No longer would the Ontario Medical Association, for example, be able to upgrade its fee schedule without consulting the government which, since October 1 and the inception of Ontario medicare, has become the only underwriter of medical care insurance in the province. Instead, fee changes would have to be negotiated through collective bargaining in the same manner that trade unions now negotiate work and salary agreements with their employers.

. . . Collective bargaining between the people offering services and those paying for them may be more satisfactory in provincial medicare schemes . . .

But while the report notes that collective bargaining is a satisfactory way of determining physicians' fees, it is of little value in the setting of payments for lawyers' services. "With whom would such a group as a county or provincial law society bargain?" it asks. "Lawyers' clients are many and varied, and not readily organizable into an 'employer' interest for collective bargaining." The report proposed that lawyers should perhaps be allowed to suggest fees for various services, but any attempt to enforce law society members to charge them would be construed as price fixing — and, as such, punishable.

The council said concern over the fees charged by professional groups is in no way an attempt to undermine the high standards in either the legal or medical profession. But, it added: "There is also a public interest in ensuring that the power to regulate the quality of professional service is not used in an unduly restrictive way, and that the size of likely future needs for professional services be kept in mind. This aspect of the public interest is all the more relevant in an age when a large proportion of the cost of professional training is a charge on the general taxpayer."

The council, which is an appointed but independent research arm of the federal government, said the naming of lay people to the boards of self-governing professional societies would alleviate public concern since their presence would be designed to "represent consumers' interests and to check any tendency toward the exercise of power in the interests of the profession rather than that of the public."

dentistry in the news

The Association

Special Board Session to Tackle By-Law Amendments

President H. R. MacLean has called a special session of the CDA Board of Governors in Toronto for October 31 and November 1. The meeting was requested by more than the required two-thirds of all Board members.

Purpose of the session is to deal with by-law amendments proposed at the February 24-25 Aims and Objectives Conference and subsequently reviewed by a reference committee at the annual Board meeting in Montreal. Delegates to the special session are expected to consider principles and draft new by-laws to be subsequently refined by the Council on Constitution and By-laws in time for presentation at the 1970 annual meeting of the Board.

The Nation's Capital

Lobbyists May Have to Register

Consumer and Corporate Affairs Minister Ronald Basford wants to make all lobbyists operating in the federal capital register with his department, according to *The Financial Post*.

They will be expected, moreover, to give a full accounting of who their clients are and how they spend the funds they receive.

If Basford has his way, it won't only be the relatively well known lawyers and

public relations men operating openly as lobbyists who will have to sign up. Also included would be those — like press gallery journalists, senators, retired politicians and even members of parliament — who might be paid retainers to represent outside interests in the federal cabinet.

An example of what is being talked about is this: when a fairly prominent lawyer or accountant meets a cabinet minister and makes a strong appeal for free trade in television sets, it is useful for the minister to be able to look up the list of lobbyists and see if his visitor is representing a foreign electronics firm. There is nothing wrong in making the appeal, but the minister is much better able to weigh the objectivity of the viewpoint that has been presented.

Canada and the Provinces

CDA Brands Newspaper Article 'Irresponsible'

The CDA has charged that a recent statement about dentistry in the August 28 *Toronto Telegram* is "irresponsible and vindictive." The charge stems from an article, "This Hurts Me More Than You," by Percy Neeps which appeared in the paper's 'After Four' section. This section is aimed at young readers.

The article pours scorn on dentistry and asks: "If a guy had the mental capacity to remember two things at the same time, do you think he'd want to be a dentist?"

In a letter to the *Telegram's* editor,



Some of the recipients of fellowships at the July 10 Montreal meeting of the International College of Dentists, Canadian Section, are pictured above. Left, standing, are: P. C. Staples, Montreal; J. C. Waddell, Calgary; L. E. Francis and R. W. Faith, Montreal. Seated are: Herbert Kaplan, Montreal; G. R. Covey, Ottawa; Rémy Langlois, Quebec City; J. A. Giroux, Sherbrooke; and A. H. Lane, Edmonton. Right, standing, are: Doctors Lane, Staples, Waddell, Francis and Faith. Seated are: Doctors Kaplan and Covey; Wilder Penfield, Montreal; and Dr. Giroux.

Lloyd H. Bowen of the CDA Bureau of Public Information said that dental education calls for sound scholarship, manual dexterity, good judgement and above-average ability. "There is a need to increase the output of dentists while maintaining standards both of quality of personnel and training," he wrote, adding: "I hope that in future After Four will assist us to interest qualified young people of either sex to consider dentistry as a career."

Retirement of Dr. Crawford, Deputy Minister of National Health

Deputy National Health Minister J. N. Crawford retired August 29 after a lengthy and distinguished career of service to Canada. Dr. Crawford had served as deputy minister since 1965.

Dr. Grainger Appointed to Ottawa Post

R. M. Grainger has assumed the position of research director at the Association of Canadian Medical Colleges, Ottawa. Previously associate director for extramural programs of the National Institute for Dental Research in Washington, Dr. Grainger was also formerly with the Di-

vision of Medical Statistics of the Ontario health department 1951-58 and then on the staff of the University of Toronto and University of British Columbia as professor of epidemiology and statistics. Earlier this year Dr. Grainger received a fellowship in the Royal College of Dentists of Canada in recognition of his contributions to dental research.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on August 31:

Government Bond Fund \$13.851;
Corporate Bond Fund \$14.892;
Common Stock Fund \$24.427.

Total assets (market value) of the plan were \$9,202,309.97.

The following common stock portfolio sales occurred during the preceding month: 6,000 shares McDonalds Corp.

For further information please write to CDA Retirement and Insurance Plans, 230 St. George St., Toronto 180, Ont.

International Items

Canadian Dentists Invited to New Zealand

Canadian dentists have been invited to attend the Fifth Biennial Conference of the New Zealand Dental Association to be held at Dunedin, August 24-28, 1970. Further information can be obtained by writing to R. M. King, PO Box 647, Dunedin, N.Z.

Dr. Christensen, Prominent Australian Oral Surgeon Dies at 54

George Christensen, 54, one of the outstanding men in Australian dentistry and surgery, died in Brisbane July 18 after a major operation.

After graduating in dentistry from Queensland University in 1937, Dr. Christensen went to Canada where he earned a DDS degree at the University of Toronto before going to Britain where he obtained high specialist qualifications.

World War II took Dr. Christensen into the Royal Australian Air Force and in 1964 he became consultant oral surgeon to the RAAF.

After the war Dr. Christensen enrolled at the Queensland University Medical School. He took his final medical examination at London University, and while in England obtained further specialist qualifications.

Dr. Christensen's eminence in his fields led to many invitations to serve overseas. In 1960 he was chosen as professor of oral surgery at the University of Baghdad. He stayed more than two years in Iraq.

He was twice president of the Australian Dental Association and held memberships in 21 professional bodies in several countries.

Hillenbrand Fellowship for Dental Administrators

The Board of Trustees of the American Dental Association has announced plans to establish The Hillenbrand Fellowship in 1970. The fellowship will honour the ADA's executive director who will retire December 31. It will provide selected candidates a year of study and participation in dental administration. Recipients will likely pursue several months of study at a graduate school of business, actual staff work at the ADA, a state dental society, a dental service corporation and at the ADA Washington office.

Dental Organizations

New Brunswick Association Elects Officers

The New Brunswick Dental Society has new officers for 1969-70. L. G. Zed, Saint



P. T. Smylski, Toronto, (right), was recently elected president of the Canadian Society of Oral Surgeons. He is shown receiving the gavel of office from Past President Antoine Raymond of Montreal. The gavel is made of wood taken from the home of Sir John A. Macdonald.

John, is the new president, succeeding J. B. Sutherland, Woodstock. Other officers are J. F. Edgecombe, Saint John, honorary president; G. A. Cormier, Moncton, vice-president; and G. R. Rowe, Nashwaaksis, secretary-treasurer-registrar.

Essex County Dentists Elect Dr. Emon

J. M. Emon is the new president of the Essex County Dental Society, succeeding P. J. Courey. Other officers are M. A. Hakem, vice-president; A. H. Kupsov, treasurer; and J. B. Recker, secretary.

Alberta Dentists Elect Dr. Sparrow

A. D. Sparrow of Calgary is the new president of the Alberta Dental Association. He succeeds L. G. Mandin of St. Paul. The vice-president is J. C. Waddell, Calgary, and G. E. Decker, Edmonton, continues as executive director-registrar.

Dental Education

NDEB May Accept Graduates of Accredited Schools by 1971

The National Dental Examining Board of Canada, at its annual meeting June 23-24, decided to "accept and implement the principle that by 1971 the National Dental Examining Board of Canada confer its certificate upon all 1971 graduates of accredited Canadian dental schools pro-

vided that the National Dental Examining Board have an effective voice on the [CDA] Council on Education regarding accreditation of schools."

Students who graduate in 1970 are advised to take the NDEB examination so that they too may earn NDEB certificates which will be conferred on all graduates of approved schools after 1970 provided NDEB is given an effective voice in the accreditation procedure.

Four New Appointments at Western U

Dean W. J. Dunn of the Faculty of Dentistry, University of Western Ontario, has announced the following new appointments:

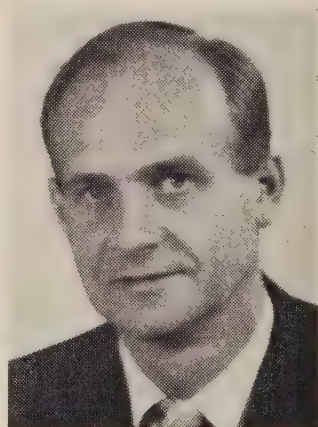
A. J. Gwinnett has been named associate professor in the Departments of Restorative Dentistry and Anatomy. His research interests are the ultrastructure of dental enamel and the early carious lesion and the role and potential of adhesives in preventive dentistry.

I. D. F. Schofield has been appointed associate professor in the Department of Oral Surgery. Dr. Schofield graduated from the University of Toronto's Faculty of Dentistry in 1956. Following practice in northern Ontario and Toronto, he earned a diploma in oral surgery and anaesthesia in 1964. For the past five years Dr. Schofield has practised in Hamilton, Ont., and instructed in the Department of Oral Surgery at Toronto. He is a fellow of the Royal College of Dentists of Canada.

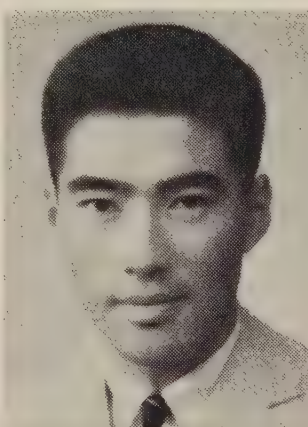
Maj. D. H. Skinner joined the Department of Restorative Dentistry as an asso-



A. J. Gwinnett



I. D. F. Schofield



M. Suzuki



D. H. Skinner

Sheppard Margoese, British Columbia representative of the Canadian Fund for Dental Education, recently presented a \$2,600 cheque to Dorothy F. Mayers, Vancouver. Miss Mayers, the first Canadian dental hygienist to receive a teacher training fellowship from CFDE, will study for the BSc degree in dental hygiene at the University of Washington, Seattle. Last year 30 per cent of all dentists in Newfoundland and Prince Edward Island supported the Fund. The next highest province was Saskatchewan with 22 per cent of its dentists forwarding personal contributions. Early indications suggest that dentists' contributions to this year's annual campaign conducted during October, CFDE month, may surpass all previous records.



ciate professor. He graduated from the University of Toronto in 1951. Before coming to Western he was officer in charge of No. 1 Dental Clinic, National Defence Headquarters, Ottawa.

A 1963 graduate of Tokyo Dental College, Makoto Suzuki is a new assistant professor in the Department of Restorative Dentistry. Dr. Suzuki has also studied at the Eastman Dental Centre, Rochester; Forsyth Dental Centre, Boston; Harvard University; and the University of Rochester. This year he earned a DMD degree from the University of Manitoba.

New Pharmacology Journal

The Association of Pharmacology and Therapeutics Teachers in Dentistry has announced the publication of a new journal titled *Pharmacology and Therapeutics in Dentistry*. It replaces the *Journal of Oral Therapeutics and Pharmacology*, the publication of which was discontinued by the Williams & Wilkins Co. in 1968.

The editor of *Pharmacology and Therapeutics in Dentistry* is A. H. Kutscher, Columbia-Presbyterian Medical Centre, 630 West 168th Street, New York City, NY 10032, USA. The new publication will be issued quarterly during the current year. Annual subscriptions are \$5 per year.

Regional Conventions

Montreal Club Sets Fall Clinic for Nov. 3-5

The Montreal Dental Club will hold its annual fall clinic at the Queen Elizabeth Hotel November 3-5. Preceding the meeting will be a two day pre-convention seminar devoted to "The Integration of an Active Preventive Concept into a Busy Dental Practice."

Other convention essayists and topics include: G. M. Kramer, Boston, periodontics; J. C. Muhler, University of Indiana, preventive dentistry; W. Schmid,

Wilton, Connecticut, office design; Donald Kepron, Montreal, prosthodontics; R. Dykema, University of Indiana, porcelain fused to gold in restorative dentistry; S. P. Ramfjord, University of Michigan, occlusion and occlusal adjustment; R. R. Hawes, Eastman Dental Centre, Rochester, New York, periodontics; E. R. Ambrose, McGill University, operative dentistry; Benjamin Sedlezky, McGill University, endodontics; and C. Wirth, University of Kentucky, crown and bridge prosthodontics.

For further information, write Miss M. Komarnicka, 4166 St. Catherine St. West, Montreal 215, Que.

Economics

Retroactive Pay Boost for Federal Dentists

Physicians and dentists working for the federal government were given retroactive salary increases August 18. The majority will receive annual increments of 7.5 per cent effective July 1, 1967, 6.5 per cent effective July 1, 1968, and 5.5 per cent effective July 1, 1969. The collective agreement, which covers some 70 dentists, expires June 30, 1970.

Announce Aid for Czech Dentists

The 16 Czechoslovak dentists, who failed a three day licensing examination last May, have been offered a 10-month course equipping them to practise in Ontario.

The course, which began September 15 at the University of Western Ontario, is conducted by a detachment from the Canadian Forces Dental School at Base Borden.

At the end of the 10 months, the Czechs may write a special nine part examination, and then practise for three years in dentist-short communities chosen by the provincial health department.

The training program was recommended by the Royal College of Dental Sur-

geons of Ontario and is jointly sponsored by the provincial health department and the federal Departments of Manpower and Immigration and National Defence. The provincial health department is financing the course, while the federal manpower and immigration department is paying subsistence payments and travel expenses for the dentists and their families.

Ontario Eases Licensure for Foreign Physicians

Medical licensing regulations governing the admission of foreign physicians to practise in Ontario have been eased by the Ontario College of Physicians and Surgeons.

The college in future will recognize medical schools listed in the World Health Organization's *World Directory of Medical Schools*. Until now, it has refused to accept undergraduate medical education provided in what it considers substandard medical schools.

A second change is the elimination of basic science examinations instituted because the college felt this phase of training abroad often fell short of standards demanded by Canadian universities.

Before receiving a licence, a candidate must pass the Medical Council of Canada examination. Before he can write this examination a physician must obtain an enabling certificate from a provincial medical licensing board.

To obtain an enabling certificate from the Ontario college, the candidate no longer has to pass these basic science examinations. He must fulfil three conditions: pass a screening examination, carry out two years' internship in an approved Canadian hospital — one year of which must be in Ontario — and he must complete the documentation and pay the fees set by college regulations.

In addition, a physician who has already passed his Medical Council examinations on an enabling certificate issued by another province will be accepted in Ontario "provided he has satisfied the requirements under consideration by the Federation of Provincial Medical Licens-

ing Authorities in Canada and endorsed by the Ontario college." Formerly, it did a physician no good to hold an MCC if he could not have satisfied the requirements of the Ontario college for issue of an enabling certificate.

The federation has developed principles upon which to base regulations governing the granting of enabling certificates as the first step toward uniform licensing regulations. All provincial medical licensing authorities are expected to adopt these principles. Once this occurs, any graduate of a medical school recognized by the World Health Organization who satisfies these requirements and passes the Medical Council of Canada examinations will be eligible for full registration in any province of Canada.

Canada's Health Costs Sky-Rocket

High costs of Canada's health and welfare system were among the reasons given by Prime Minister Pierre Trudeau for tightening the federal government's 1970-71 budget.

In a television and radio broadcast August 13, Mr. Trudeau announced that, to combat mounting inflation, civil servants will be laid off jobs, defence spending will be drastically cut, and four military bases will be closed.

The prime minister said about 25,000 people will be dropped from the federal payroll — representing about 10 per cent of the public service.

He said government spending on health and welfare in the nation the past few years has more than doubled, as did spending on general government expenditures.

In his broadcast address, Mr. Trudeau noted:

"If we were to spend vast sums on welfare, education, and other important programs while allowing inflation to continue we would merely be placing hundreds of thousands of Canadians on a treadmill from which they could not escape. We would be giving more money for welfare, but permitting inflation to run un-

checked, and more money would be buying less goods."

The prime minister said his administration is attempting to have government departments absorb the inflation rather than passing it on to the consumers by way of higher taxes.

He said that during the past 10 years government spending has nearly doubled from \$6 billion to \$11 billion a year. He warned that government spending would double again within the next five years if spending is allowed to increase each year at the rate it has been.

Economic Council Predicts Sharp Rise in Health Spending

Government expenditure on health services, spurred by country-wide adoption of medicare, is expected to rise more rapidly than any other area of government spending in the next five years, the Economic Council of Canada predicts.

By 1975 these expenditures may total nearly \$5 billion — about double the level set in 1967.

About half of the increase in total health spending is associated with the assumed adoption by all provinces of the federal medical care insurance plan.

The council's medicare projections allow for both population increase and more intense use of physicians' services, but they are based on the assumption of a marked slowing in recent advances in physicians' fees.

Arthur Smith, council chairman, says there has been a rapid escalation in these fees recently — "perhaps in anticipation of medicare."

He suggests that negotiation of fee schedules between governments and medical associations may probably result as medicare programs and costs expand.

The council notes that although Canada's health spending—private and government combined—is among the world's highest on a per capita basis, the life expectancy of the Canadian male at birth is less than that for a number of other countries. Canada, for example, ranks below Denmark, Israel, Norway, Sweden, the Netherlands and Switzerland.

let's stop the tartar invasion

I grew 32 and still have them. No cavities.
No gum disorders. No decay. What's your score?

I brush after meals.
Eat proper foods.
Support fluoridation.
And I drop in at my
dentist's every six
months for a check-up
and to get those
obstinate deposits of
tartar removed.

Periodontal or gum
disease is the chief
cause of tooth loss
after age 30. It
totally destroys tooth
sockets. I'm going to
protect mine. Are
you?

courtesy of Ontario Hydro

Ontario Hydro has produced this dental health poster for the Ontario Dental Association. Its message emphasizes concern about the dental health of young adults and is intended to make executives in industry aware of oral health problems in their employees. Local dental societies may secure sample copies, in limited quantity, from the Ontario Dental Association for distribution to local industries.

Fluoridation

WHO Adopts Resolution Supporting Fluoridation

The General Assembly of the World Health Organization on July 23 adopted a resolution calling on all WHO member states to introduce "where practicable" fluoridation of community water supplies in areas where the fluoride intake from water and other sources for a population is below optimal levels. The resolution proposed by Great Britain and co-sponsored by 36 other delegations, including the United States and the Soviet Union, was adopted during the 22nd World Healthy Assembly of WHO in Boston.

Ohio Gets State-wide Fluoridation Law

Ohio Governor J. A. Rhodes, on August 18, signed into law a bill requiring state-wide fluoridation. The legislation calls for all water supplies serving 20,000 or more persons to be fluoridated by January 1, 1971, and all supplies serving from 5,000 to 20,000 people to be fluoridated by January 1, 1972.

Ohio becomes the seventh American state to adopt fluoridation legislation. Previous state-wide legislation has been enacted in Connecticut, Minnesota, Illinois, Delaware, Michigan and South Dakota.

Toronto paedodontist K. W. Davey (right) was interviewed about fluoridation and children's dentistry on 'Morning Metro' over Channel 9 (CFTO-TV) August 27. 'Morning Metro' is a popular program beamed to a very large at-home audience. The interview came as the result of initiative by the CDA. Pat Murray is the interviewer and Dr. Davey is chairman of the CDA Council on Public Health.



Deaths

Clay, Merrill Allan. 72. Ottawa. Dalhousie University, 1923. 26-7-69.

Lowther, John Sidney. 94. Edmonton. Baltimore College of Dental Surgery, 1899. 17-8-69. Survived by Prudence (wife); Dr. Kenneth (son); three stepsons, one stepdaughter, 17 grandchildren and six great-grandchildren.

Smith, William Dewey. 70. Grand Forks, BC. North Pacific College, University of Oregon, 1923. 5-7-69.

Stewart, Evan Alexander. 69. Toronto. Royal College of Dental Surgeons of Ontario, 1923. 21-8-69. Survived by Allan and Bruce (nephews) and Betty (niece). Associate member CDA.

Awards and Honours

C. Aberdeen McCabe, Ottawa, was recently honoured by admission to the Most Venerable Order of the Hospital of St.

John of Jerusalem. Dr. McCabe retired September 1 from the Dental Health Division, Department of National Health & Welfare.

H. R. Skilling was made an honorary member of the Academy of Dentistry, Toronto, when that organization held its annual dinner October 23.

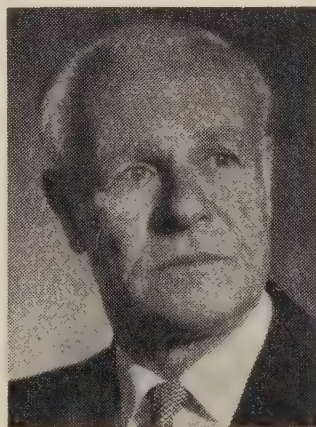
F. H. Compton, editor of the *Journal of the Canadian Dental Association*, has been awarded the William J. Gies Editorial Award for 1968. Dr. Compton was president of the American Association of Dental Editors 1967-68.

R. S. Turnbull, Port Credit, Ont., has been awarded the 1969-70 Ronson Scholarship in Periodontics. The scholarship, valued at \$2,000, is open to all students in the first year postgraduate course in periodontics at the Faculty of Dentistry, University of Toronto.

Toronto dentists, **Anders Bennick** and **Rudolf Falk**, and **A. E. MacLeod** of Halifax have been awarded Centennial Fellowships by the Medical Research Council of Canada. The fellowships are worth \$10,000 a year for up to three years for advanced study. Dr. Bennick will do research at the University of Toronto on human saliva, and at Oxford University, England, on physics. Dr. Falk will work on immunology and other problems related to transplants at the University of Colorado. Dr. MacLeod will pursue post doctoral studies in sociology at Dalhousie University, and behavioural sciences at Harvard University.



C. A. E. McCabe



H. R. Skilling

les actualités dentaires

L'Association

Les responsables de l'ADA et de l'ADC discutent de problèmes communs à Chicago

De nombreux problèmes communs étaient à l'actualité lorsque le Conseil d'administration de l'Association dentaire américaine et le Conseil Exécutif de l'ADC se sont réunis, les 21 et 22 juillet à Chicago, pour la quatrième fois dans l'histoire des deux associations. Les deux organisations s'étaient rencontrées auparavant à Toronto en 1960 et 1966 et à Chicago en 1963.

Parmi les sujets discutés, lors de cette rencontre, on peut mentionner: l'enseignement dentaire, les auxiliaires, les régimes d'assurance-groupe, le programme de l'ADA concernant la santé dentaire des enfants, la spécialisation, le Bureau national des examinateurs dentaires (aux E.-U.), les régimes Medicare et Medicaid aux E.-U., le régime canadien d'assurance-maladie, les buts et objectifs de l'ADC, les rapports de l'ADA avec les organisations dentaires des états, le tarif postal affectant les publications dentaires, la Commission royale d'enquête de l'Ontario sur les droits civils (Rapport McRuer), le Conseil de la santé de l'Ontario, le Comité de la législature de l'Ontario sur les professions de la santé et l'organisation des assemblées annuelles de l'ADA. Les représentants de l'ADC étaient: le président H. R. MacLean; le président désigné W. J. Spence; A. L. MacIsaac, W. P. Munsie et J. B. Taylor; le secrétaire W. G. McIntosh; le rédacteur F. H. Compton; la directrice du Bureau des recherches économiques

Mme B. I. Brown; le contrôleur de l'ADC D. M. McDonald; le président du Conseil des Gouverneurs P. S. Christie; le président du Conseil de l'enseignement W. J. Dunn; le président du Comité des services dentaires P. E. Currie; et le président du Comité des spécialités O. J. Yule.

Le président MacLean et le secrétaire McIntosh visitent l'est du pays

Le président de l'ADC et Mme H. R. MacLean, accompagnés du secrétaire et de

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association dentaire canadienne étaient les suivantes au 31 août:

Fond d'obligations gouvernementales \$13.851;

Fonds d'obligations corporatives \$14.892;

Fonds d'actions ordinaires \$24.427.

L'avoir total (valeur marchande) du régime se montait à \$9,202,309.97.

Au cours du mois précédent, les transactions d'actions ordinaires ont été les suivantes: vente 6,000 actions de McDonalds Corp.

Pour de plus amples renseignements, veuillez écrire à: CDA-sponsored Pension and Insurance Plans, 230 St. George St., Toronto 180, Ont.



Voici le nouvel exécutif de l'Académie canadienne de prosthodontie. Apparaissent de gauche à droite les docteurs: G. A. Zarb, Toronto; Jean Nadeau, Montréal, président sortant; Donald Kepron, Montréal, président; W. G. Woods, Toronto, secrétaire-trésorier; A. D. Fee, Edmonton; Jacques Fiset, Montréal.



Le nouvel exécutif de l'Académie canadienne de dentisterie de restauration est composé des docteurs: W. R. Scott, Vancouver; D. H. MacDougall, Edmonton, secrétaire-trésorier; S. R. Katz, Winnipeg, président; Jacques Fiset, Montréal, président sortant; D. B. McAdam, Toronto, président désigné.

Mme W. G. McIntosh ont rendu visite aux associations dentaires de l'Ile-du-Prince-Edouard et de Terre-Neuve le mois dernier.

Ils ont assisté au Congrès dentaire des provinces atlantiques, tenu à Summerside, I.-du-P.-E., du 14 au 17 septembre, ainsi qu'aux assises annuelles de l'Association dentaire de Terre-Neuve qui a eu lieu à St-Jean, du 18 au 20 septembre.

Gauthier en tant que commissaire général de l'immigration.

Le poste avait été créé l'automne dernier afin de combattre les obstacles qui empêchent l'immigrant de continuer à travailler dans sa profession après sa venue au Québec.

Le Canada

Quatre dentistes passent l'examen de compétence

Quatre nouveaux licenciés ont passé avec succès l'examen de compétence du Collège des chirurgiens-dentistes de la province de Québec et ont obtenu le droit d'exercer au Québec.

Les Drs Maceo Bascunan Termini, Gregorio Beiger et Napoleon de la Fuente Ayala sont diplômés de l'Université du Chili et ont émigré au Canada il y a seulement quelques mois. Le Dr René Boiridy, diplômé de l'Université d'Alexandrie, Egypte, était interne à l'Hôpital Notre-Dame à Montréal.

Québec nomme un "protecteur des immigrants"

Le ministre québécois de l'Immigration, M. Mario Beaulieu, a nommé M. René

Les organisations dentaires

Réunion conjointe des académies de dentisterie de restauration et de prosthodontie

La première réunion conjointe de l'Académie canadienne de prosthodontie et de l'Académie canadienne de dentisterie de restauration s'est tenue à l'Université de Montréal, les 7 et 8 juillet derniers. La présence de près de 200 dentistes (membres et invités) à ces assises témoigne du succès retentissant qui a couronné les efforts des organisateurs.

Nouvel exécutif du Bureau de direction de l'ADPQ

Le Dr Jacques Dufour, de Québec, a été élu président de l'Association dentaire de la province de Québec. Il remplace le Dr Jacques Fiset, de Montréal, qui a occupé le poste pendant deux ans pour lui permettre de contribuer à la naissance prochaine de l'Association des chirurgiens-



Voici le nouvel exécutif de l'Association dentaire de la province de Québec. On reconnaît, dans l'ordre habituel, les docteurs Marc Trépanier, président désigné; Jacques Dufour, président; Jacques Fiset, président sortant; Fernand Beaudoin, secrétaire-trésorier; et Marcel Tenenbaum, vice-président.

dentistes du Québec qui sera formée par la refonte de l'ADPQ et de l'Association professionnelle des chirurgiens-dentistes du Québec.

Les autres membres de l'exécutif sont: Dr Marc Trépanier, de Valleyfield, président désigné; Dr Marcel Tenenbaum, de Montréal, vice-président; et Dr Fernand Beaudoin, de Trois-Rivières, secrétaire-trésorier.

La Société dentaire de Québec étudie les besoins dentaires de l'aire no 10

Pour répondre au Comité conjoint du logement de l'aire no 10 de la ville de Québec qui critiquait les dentistes de la Vieille Capitale de ne pas s'être déclarés prêts à collaborer à la clinique médicale gratuite organisée par le comité, la Société dentaire de Québec a remis un communiqué à la presse le 4 juillet.

Ce communiqué affirme qu'"aucune correspondance officielle ne fut échangée entre le bureau de direction de la clinique médicale de l'aire no 10 et celui de la Société dentaire de Québec." La Société dentaire de Québec s'est dite prête à étudier le projet de la clinique médicale en ce qui concerne les soins dentaires. L'exécutif de la société rendra sa décision après cette étude.

Le communiqué a également rappelé au public qu'il existe à Québec un service dentaire d'urgence durant les jours de fin de semaine.

L'éducation dentaire

Dix dentistes du Québec deviennent membres du Collège royal

Dix dentistes québécois ont été admis comme membres du Collège royal des chirurgiens-dentistes du Canada, lors de la convocation annuelle qui a eu lieu à Montréal le 12 juillet. Voici leurs noms:

Groupe des sciences dentaires: L. E. Francis et J.-P. Lussier;

Chirurgie buccale: Paul Mercier;

Orthodontie: A. C. Mendel, L. L. Prosterman et M.D. Rennert;

Périodontie: M.M. Dines, F.I. Muroff et A.S. Wainberg;

Prothèse: R.G. Jones.

L'enseignement dentaire

D'ici 1971 le BNED admettrait les diplômés des facultés accréditées

Le Bureau national d'examen dentaire du Canada a décidé que, d'ici 1971, il pourrait conférer son certificat à la totalité des diplômés des facultés dentaires canadiennes accréditées. Cette initiative serait annoncée à condition que le Bureau puisse avoir une voix efficace au Conseil de l'enseignement de l'ADC au moment où les facultés dentaires sont accréditées. La décision a été prise à la réunion annu-

elle du Bureau qui a eu lieu les 23 et 24 juin.

Entre-temps, on conseille à ceux qui finiront leurs études en 1970 de prendre les examens du BNED afin qu'ils puissent également se mériter le certificat du Bureau.

L'économie

Selon le CEC, la concurrence s'applique aussi à l'activité professionnelle

Le Conseil économique du Canada a recommandé au gouvernement fédéral que la politique de concurrence soit appliquée dorénavant à toutes les sociétés commerciales, y compris les services, dont ceux des médecins et des avocats, le sport professionnel et tous les autres services commerciaux et professionnels.

Cette proposition fait partie du rapport provisoire du CEC sur la politique de concurrence, et comprendrait des recours à la fois au droit pénal et au droit civil et aurait pour but d'accroître l'efficacité pratique de l'économie à l'avantage du consommateur.

Augmentation de salaire rétroactive pour les dentistes de la fonction publique

Les médecins et les dentistes qui sont au service du gouvernement fédéral ont obtenu des augmentations de salaire. La majorité d'entre-eux recevront des augmentations annuelles de 7.5 p.c. rétroactives au 1er juillet 1968 et de 5.5 p.c. à partir du 1er juillet 1969. Cette convention collective, qui touche 70 dentistes, a été signée le 18 août et se termine le 30 juin 1970.

Assistance aux dentistes tchécoslovaques

Des cours d'une durée de 10 mois ont été offerts aux 16 dentistes tchécoslovaques qui ont échoué aux examens de licence au mois de mai dernier. Ces études servi-

raient à les préparer à exercer en Ontario.

Les cours ont débuté le 15 septembre à l'université Western Ontario, et sont donnés par un détachement de l'Ecole dentaire des Forces armées canadiennes de la base militaire de Borden.

Après les 10 mois, les Tchèques pourront passer un examen spécial divisé en neuf parties et ils pourront alors exercer pendant trois ans dans des régions qui manquent de dentiste et qui seront choisies par le ministère provincial de la Santé.

Ce programme d'entraînement a été recommandé par le Collège royal des chirurgiens-dentistes de l'Ontario et est commandité conjointement par le ministère provincial de la Santé et les ministères fédéraux de la Main d'œuvre et de l'Immigration et de la Défense nationale. Le ministère de la Santé de l'Ontario défrayera le coût de l'enseignement, tandis que le ministère fédéral de la Main d'œuvre et de l'Immigration paiera le loyer, la nourriture et les dépenses de déplacement des dentistes et de leurs familles.

Nouvelle entente des médecins avec le gouvernement

Une nouvelle entente a été signée le 11 juillet entre la Fédération des médecins omnipraticiens du Québec et le gouvernement provincial. La signature de l'entente de l'assistance médicale assure aux assistés sociaux la gratuité des soins médicaux et chirurgicaux.

Le médecin travaillera de plus en plus en équipe

L'expérience de la planification des services de santé qui se poursuit actuellement dans la région des Cantons de l'Est est appelée à avoir des répercussions sur l'ensemble de la province. Sa réussite transformera le système de distribution de soins dans le Québec et changera même le rôle traditionnel du médecin qui sera appelé à travailler de plus en plus en équipe.

C'est ce qui découle d'une causerie don-

née par le Dr Jacques Gélinas, sous-ministre de la Santé, dans laquelle il a présenté les idées de son ministère sur la régionalisation des services de santé.

L'augmentation rapide du coût des services de santé que la révolution de la technique thérapeutique et diagnostique a amenée nécessitera une coordination soigneuse de tous les facteurs de production et l'utilisation judicieuse des ressources humaines hautement spécialisées.

Le sous-ministre a souligné que la planification doit être fondée sur la participation des parties en cause et ceci implique le dialogue, la consultation et la collaboration.

Les médecins formés à l'étranger obtiendront plus facilement une licence

Les nouveaux règlements du Collège des Médecins et Chirurgiens de l'Ontario faciliteront l'accès des médecins formés à l'étranger à l'exercice dans cette province.

A l'avenir le collège reconnaîtra les écoles de médecine enregistrées dans l'Annuaire mondial des écoles de Médecine publié par l'Organisation mondiale de la Santé. Jusqu'à présent le collège avait refusé d'accepter l'enseignement médical fourni par ce qu'il considérait être des écoles de médecine d'un niveau au-dessous de la moyenne.

En deuxième lieu, les examens de sciences de base ont été éliminés. Ces examens avaient été imposés parce que le collège était d'avis que cette phase de l'enseignement, tel que donné à l'étranger, n'atteignait pas les normes requises par les universités canadiennes.

Avant de pouvoir écrire l'examen du Conseil médical du Canada qui est nécessaire à l'obtention d'une licence, un candidat doit détenir, d'un bureau médical provincial, un certificat lui en donnant la permission.

Bien que le candidat ne devra plus passer les examens de sciences de base afin d'obtenir un certificat du collège ontarien, il devra cependant remplir trois conditions: passer un examen de sélection, exécuter un internat d'une durée de deux

ans dans un hôpital canadien sanctionné (une de ces années doit être passée en Ontario) et remplir les formules et payer la cotisation fixée par les règlements du collège.

En outre, un médecin qui a déjà réussi aux examens du Conseil médical grâce à un certificat obtenu d'une autre province sera admis en Ontario "à condition qu'il ait satisfait les exigences de la Fédération des Autorités provinciales de licence médicale du Canada qui sont approuvées par le collège de l'Ontario". Autrefois, il ne servait à rien au médecin de posséder un certificat du CMC s'il ne pouvait satisfaire aux exigences du Collège ontarien, pour l'obtention d'un certificat de permission.

En vue d'élaborer des règlements uniformes de licence, la fédération a établi certains principes sur lesquels les règlements qui régissent l'octroi du certificat de permission seraient fondés. On s'attend à ce que toutes les autorités provinciales qui émettent les licences médicales adopteront ces principes. Dès que cela se sera produit, tout diplômé d'une école de médecine reconnue par l'Organisation mondiale de la Santé qui satisfait ces exigences et qui réussit aux examens du Conseil médical du Canada sera admissible à l'inscription dans n'importe quelle province du Canada.

La fluoration

La CSN réclame la fluoration des eaux

Le bureau du Conseil central des Syndicats nationaux de Montréal (CSN) est entré en campagne pour obtenir la fluoration de l'eau que boivent les Montréalais. Un communiqué de la CSN s'étonne de ce qu'elle qualifie de l'"entêtement du maire Jean Drapeau".

Le bureau déclare avoir pris connaissance du dossier préparé par la Ligue d'hygiène dentaire de la province de Québec et le Comité de la fluoration des eaux de Montréal, et avoir adopté une résolution d'appui à la fluoration.

"Etude" de la fluoration par le Comité exécutif de Montréal

Bien que le maire de Montréal, M. Jean Drapeau, continue à s'opposer à la fluoration de l'eau potable, deux conseillers municipaux pour Notre-Dame-de-Grâce ont présenté une résolution, le 29 juillet, proposant la fluoration des eaux de Montréal. En faisant cette proposition, M. Jacques Brisebois, appuyé par M. John Parker, a expliqué les bienfaits de la fluoration par des arguments scientifiques et économiques.

M. Drapeau s'est fait rondement critiquer par M. John Parker qui lui a déclaré: "Nous sommes ici pour protéger les intérêts de chacun, et même si la fluoration n'aiderait seulement qu'une personne, nous ne ferions qu'accomplir notre devoir."

La résolution ira maintenant au Comité exécutif pour une "étude" supplémentaire.

Sorel et Waterloo progressent

Pendant que Montréal piétine, la ville de Sorel ajoute déjà du fluor à l'eau potable depuis le 26 mai dernier, tandis que la ville de Waterloo a décidé de continuer les démarches en vue de fluorer l'eau de consommation.

L'OMS adopte une résolution d'appui à la fluoration

L'Assemblée générale de l'Organisation mondiale de la Santé a adopté une résolution qui fait appel aux états qui sont membres de l'OMS et leur demande d'établir la fluoration des eaux communautaires "là où la possibilité existe au point de vue pratique". L'OMS recommande la fluoration des eaux dans les régions où l'ingestion de fluor en provenance des eaux de consommation et d'autres sources est en-dessous des ni-

veaux optimaux. La résolution a été proposée le 23 juillet par la Grande-Bretagne et endossée par 36 délégations, y compris les Etats-Unis et l'Union soviétique lors de la 22e Assemblée mondiale de la Santé de l'OMS à Boston.

La ville d'Atlanta a un nouveau maire . . . et la fluoration

Les électeurs de la ville d'Atlanta et du comté de Fulton, en Géorgie, ont donné leur appui à la fluoration, lors d'un referendum, par une marge de deux à un. Le maire, M. Ivan Allen, Jr., a donc donné l'ordre de fluorer l'eau de la ville. Dans le passé, la ville et les autorités du comté n'avaient fait que se renvoyer la balle. Pendant plusieurs années, la fluoration des eaux de consommation de la ville d'Atlanta avait été entravée par un maire qui s'opposait à la fluoration.

La législature de l'Ohio proclame la fluoration pour l'ensemble de l'état

C'est le 6 août que la Chambre des Députés de l'Ohio a ratifié, par un vote de 50 à 43, un nouvel article de loi établissant la fluoration pour l'état tout entier. Le sénat de cet état avait déjà donné son approbation à la loi par un vote de 19 à 10.

Aux termes de cette législation tous les réservoirs d'eau desservant 20,000 personnes ou plus seront fluorés d'ici le 1er janvier 1971, et les réservoirs qui desservent une population de 5,000 à 20,000 personnes seront fluorés d'ici le 1er janvier 1972.

L'Ohio devient donc le septième état américain à adopter un règlement vis-à-vis de la fluoration. Antérieurement le Connecticut, le Minnesota, l'Illinois, le Delaware, le Michigan et le Dakota du Sud avaient déjà proclamé la fluoration pour l'ensemble de leur état.

special contributions

tumours headline Johannesburg oral pathology conference

The Journal is indebted to Doctor G. H. Sperber of Edmonton for this report of the Fourth International Conference of Oral Pathology held in Johannesburg, South Africa, July 15-17. Doctor Sperber is on sabbatical leave from the University of Alberta's Faculty of Dentistry. He currently serves as a senior research fellow at the University of the Witwatersrand, Johannesburg.

For three days last summer, Johannesburg became the world centre of oral pathology as some 150 scientists from around the globe, including three Canadians, converged for the Fourth International Conference of Oral Pathology. The elegant setting of the South African Institute for Medical Research provided the background for 28 scientific papers, many of them appropriately devoted to oral pathology of the tropics and of Africa in particular.

In his opening remarks, the chancellor of the academy, L. R. Cahn of New York, cited many notable African contributions to the field of oral pathology. These range from Vincent's first description of a spirillum found in oral ulcers in North Africa, through the high prevalence of noma in West Africa, to Burkitt's association of malignant lymphomas of the jaws with the mosquito-infested regions of tropical Africa. With the increasing ease of travel, said Dr. Cahn, these diseases have earned world-wide concern.



ONCOLOGY

Oncology predominated in the majority of discussions, with the aetiology and epidemiology of tumours eliciting the greatest interest.

Verrucous carcinoma in tobacco-chewers, snuff-dippers and smokers was shown by L. V. Ackerman (Washington University, St. Louis) to be most commonly located in the mouth. The lesion, which does not metastasize, can be treated by surgery alone. Dr. Ackerman warned

against radiation therapy, which may induce anaplastic transformation.

J. L. Bernier (Georgetown University, Washington) reported on the incidence of squamous carcinoma of the lip among 835 American patients. The lesion predominated in white men of fair complexion who had had prolonged exposure to sunlight since childhood. The black races are virtually immune to this condition. Dr. Bernier drew attention to the excellent 'cure rate.' He said that 91.5 per cent of follow-up cases showed no symptoms three years after treatment.

A syndrome which begins as keratinizing primordial odontogenic cysts in the mandible and is followed later by basal cell naevoid carcinoma was described by C. A. Waldron (Emory University, Atlanta). The thick-walled keratocysts, which tend to recur and be surrounded by microcysts, have a pronounced inflammatory infiltrate. This combination of features may presage dermal basal cell naevoid carcinoma which Waldron observed in five patients. R. M. Browne (Birmingham University, England) enlarged upon the nature of the keratocysts, observing their recurrence rate of 40 per cent in younger age groups, and their predominance in the mandibular third molar region.

M. Copelyn and M. Sheard (University of the Witwatersrand) dealt with the occurrence of myxofibromata in the jaws alone. They attributed this lesion to the unique persistence of mesenchymal tissue which can be found in adult jaws. The myxofibroblasts of the mesenchyme provide the basis for the stellate reticular appearance of the tumour which predominates in the mandible and occurs most frequently in Negroes. A tendency for local invasiveness accounts for its recurrence after enucleation.

Experiments in oncogenesis with polyoma virus were reported. These produced 15 odontogenic tumours in 40 mice injected within 24 hours of birth (R. B. Lucas, Royal Dental Hospital, London). Serial sections of the adult jaws revealed tumours with a stellate reticular appearance and microcysts. Lucas thought the tumours arose from gingival epithelium. The teeth had suffered odontogenic dysplasia



Main entrance to the South African Institute for Medical Research, Johannesburg, site of the Fourth International Conference of Oral Pathology. The building, designed by the British architect, Sir Herbert Baker, was erected in 1913.

and pulp necrosis. He also reported ulceration of the skin of the mental region.

W. W. Köhler (University of the Witwatersrand) postulated that squamous papilloma with a connective tissue core

The bronze finial surmounting the cupola of the South African Institute for Medical Research is an allegorical representation of the constant triumph of life over death. The topmost sphere represents life, the three snakes supporting it represent wisdom, and the skull at the base of the finial represents death. The pathology conference took place in a modern lecture theatre immediately adjacent to this original building. The skyline of downtown Johannesburg is in the background.



is due to the proliferating epithelium which evokes a vascular nutritional supply from the submucosal connective tissue. He noted the lack of dyskeratosis and the benign nature of the lesion.

V. A. Meerkotter (University of the Witwatersrand) reported on 64 cases of ameloblastoma in Johannesburg. He observed an incidence of 0.3-0.5 per 100,000 population per annum. The tumour was eight to 11 times more common in the Bantu than in the white population. It appeared most frequently in the mandibular molar region where it recurred after removal in 11-30 per cent of cases.

The effect of tobacco on the oral mucosa was outlined by C. W. van Wyk (University of the Witwatersrand) who described three different lesions. The snuff lesion, a result of placing powdered tobacco in the lower labial sulcus, gives rise to a white plaque which is not precancerous. Smoker's palate or nicotinic stomatitis produces a hyperkeratinization that rarely progresses to carcinoma. A depigmented patch of the lip mucosa results from intermittent thermal injury due to smoking cigarettes to their very end. This lesion also does not progress to cancer.

The geographic distribution of 90 per cent of cases of Burkitt's malignant lymphoma (A. Schmaman, South African Institute of Medical Research) was correlated with the high rainfall and warm temperature areas of tropical Africa. However, cases have also been reported in as cold a climate as Winnipeg's, and one case has been diagnosed in an Eskimo (Hoogstraten). The yellow-white, soft, multicentric jaw tumour is found most commonly in children, with a peak incidence at age 5-6 years. The tumour responds to chemotherapy and may be a variant expression of lymphoblastic leukaemia. The undifferentiated lymphoblastic cells of the tumour present a unique starry sky appearance which may be pathognomonic of this disease. D. H. Wright (Birmingham Medical School, England) thought that the tumour starts in the haemopoietic marrow cavity of the jaws. Though viruses may be the aetiological agents, he pointed out that viruses isolated from Burkitt's lymphomas may be passengers, and that some lymphomas are virus-free. He also questioned the

diagnosis in the cases reported from Canada.

Oral submucous fibrosis, a condition confined almost exclusively to Indians, was described by I. Dockrat (University of the Witwatersrand). It produces a burning sensation in the mouth, and the blanched and hardened mucosa limits mouth opening. The disease affects 0.5 per cent of the population and has a wide age incidence ranging from 18 to 60 years. Betel nut chewing is the most likely of several suspected aetiological agents. The condition does not appear to be precancerous. However, M. Schonland (University of Natal, Durban) reported a high incidence of upper alimentary tract cancers among Indian women of Natal. Fifty-four per cent of these women indulged in betel nut chewing. Indian men had a much lower incidence of upper alimentary tract cancers. Only 8 per cent regularly chewed betel nuts.

The rarity of oral lesions in Kaposi's sarcoma was underlined by J. F. Murray (South African Institute of Medical Research). He said that only 36 cases of oral lesions had been reported in 364 cases of the sarcoma which commonly exhibits cutaneous lesions. The oral lesions resemble those elsewhere in the body, and a more diligent examination of the oral cavity should reveal a higher incidence if the disease is manifest elsewhere.

SALIVARY GLANDS

A session on salivary gland pathology encompassed the role of salivary immunoglobulins in Vincent's infection and aphthous ulceration (T. Lehner, Guy's Hospital, London); the three virus diseases of the salivary glands—mumps, rabies and cytomegalic inclusion disease (J. H. S. Gear, South African Institute of Medical Research); and statistical analyses of environmental influences upon salivary gland carcinogenesis (N. H. Rowe, University of Michigan).

Acute and chronic inflammatory conditions of the salivary glands were reviewed by D. J. du Plessis (University of the Witwatersrand). A previously undescribed disease occurring in the salivary

glands, lympho-eosinophilic granuloma, was reported by A. T. H. Marsden (South African Institute of Medical Research). All 28 cases so far diagnosed have occurred in Malays and Chinese. The painless, single, deeply situated, slow-growing tumour responds to steroid therapy. The predominance of plasma cells, the large number of eosinophils in the fibro-fatty tissue of the tumour, and its recurrence after steroid therapy is stopped suggests that the lesion results from an auto-immune reaction.

The histology of the labial salivary glands in Sjogren's syndrome and rheumatoid arthritis, showing periductal sialadenitis was demonstrated by D. M. Chisholm (Glasgow Dental School).

ANAEMIA

A. J. Drinnan (State University of New York at Buffalo) tried to relate the clinical appearance of the oral tissues in anaemia with the histological appearance of the oral mucosa of anaemic mice. No significant histological differences were observed between anaemic and normal mice, although the iron-deficient mice exhibited white, rather than normal yellow, incisor enamel.

PERIODONTIC DISEASE

The comparatively large quantities of collagenase isolated from human gingiva were held to be partly responsible for gingivitis and periodontic disease (H. M. Fullmer, US National Institute of Dental Research). A Japanese delegate (A. Urago, Kyushu Dental College) said atherosclerosis of the mandibular artery may inhibit gingival nutrition and cause periodontic disease.

PLAQUE

Details of the composition of dental plaque were described by W. H. Bowen (Royal College of Surgeons of England) prior to a discussion of the role of dex-

tranase in the prevention of dental caries. The 20 per cent dextran content of plaque produced by streptococci may promote plaque adherence and increase its area of tooth surface contact and may also serve as an energy source of carbohydrate and as physical protection for bacteria. Removal or prevention of formation of dextran in hamsters and monkeys, by feeding dextranase, reduced dental caries and periodontic disease. To be effective, said Bowen, dextranase must be in contact with the teeth for prolonged periods at its optimum pH of 4.6. This negates its use in mouthwashes or tooth pastes. However, lozenges or chewing gum were advocated for slow release of the enzyme.

DENTAL CARIES

A. H. Marsland (Birmingham Dental School, England) described a continuous flow apparatus which works like an artificial mouth. It drips a glucose-peptone medium, inoculated with a mixed bacterial culture, onto unerupted extracted human teeth to produce artificial caries. Surface and sectioned views of the dental lesions simulate natural caries, and the apparatus provides a useful tool for experimental caries production under controlled conditions.

The appearance of carious and non-carious dental enamel under polarized light microscopy was revealed by A. T. Cape (Monterey, California), who demonstrated differences in form birefringence of the enamel of caries-resistant and caries-prone populations. Caries-prone enamel from non-fluoridated areas exhibited positive birefringence, but the enamel of non-carious individuals from fluoridated areas did not.

PUBLICATION OF FULL REPORT

The meeting concluded with a one-day clinico-pathological seminar on bone tumours. The majority of the papers will be published in a forthcoming volume commemorating the Fourth International Conference on Oral Pathology.



making the most out of office auxiliaries

Are dentists getting the best possible value from their present office auxiliaries? Evidently not, according to an American dentist who claims that more auxiliaries are needed to furnish preventive and reparative care and thus narrow the time lag between the correction of accumulated dental disease and its prevention. J. W. Gallagher, Seattle, addressing his remarks to dentists and hygienists at a recent University of British Columbia symposium, criticized dental schools for fostering what he termed as 'unit emergency care' through "their antiquated departmental clinical requirements." Comprehensive dental care receives only lip service in many schools and practices, he maintained, adding that there are less than a dozen good courses of preventive dentistry in the 50 American dental schools.

Turning to the practising dentist, Dr. Gallagher pleaded for fair employment practices and proper recognition of auxiliaries as respected co-workers. "They should be working with and not for you," he said. Their responsibilities and duties should be well defined, and good performance should be recognized and rewarded financially. Dr. Gallagher said he even provides sick leave and retirement benefits for his staff and pays the premiums for their hospital and medical insurance.

He observed that some dental hygienists work for several dentists and are paid a daily salary by each employer. "If illness requires her to miss a day, do not reduce her pay," and "if you are taking time off for a vacation or for a refresher course, pay her," he urged.

Dr. Gallagher encourages his auxiliaries



to take refresher courses and pays them for the time spent on such courses. Every addition to their knowledge is an asset to the office, he explained.

Dr. Gallagher went on to describe the Dental Auxiliary Utilization Program which assists American dental schools in developing classroom and clinical instruction in team dentistry. The program concentrates on teaching dental students to work with chairside assistants. By June 1968, he said, 22,000 graduates in 49 US schools had received training in team dentistry under the DAU Program. Continuing education courses to foster more effective use of chairside assistants for

four-handed dentistry are also available to practising dentists, he said.

Dental practice acts, said Dr. Gallagher, should define broadly the categories of operations that a dentist may not delegate to his auxiliaries. They should also specify, in general terms, the tasks which may be assigned to the hygienist and, in any new legislation, to the assistant. As an example, he cited the following wording¹ as one suggested method for accomplishing the objective of a 1967 American Dental Association resolution on expanding dental auxiliary functions:

"Licensed dentists may assign to their employed dental hygienist or assistants intra-oral tasks that do not require the professional competence or skill of the employer-dentist subject to the following conditions:

"1. The performance of intra-oral tasks by dental hygienists or assistants shall be under the direct supervision of the employer-dentist.

"2. None of the following procedures may be assigned to a dental hygienist or assistant or to any other person not licensed to practise dentistry: (a) diagnosis, treatment planning and prescription (including prescriptions for drugs and medicaments or authorizations for restorative, prosthodontic or orthodontic appliances); (b) surgical procedures on hard and soft tissues within the oral cavity or any other intra-oral procedure that con-



American Dental Association policy on expanding dental auxiliary functions

Resolved, that constituent dental societies and state dental examining boards consider recommending revision of dental practice acts (1) to give their examining boards authority to prescribe rules or regulations to achieve more effective utilization of the services of dental hygienists and dental assistants and (2) to eliminate from their acts the serial listing of functions performed by the dental hygienist, and be it further . . .

Resolved, that the state dental examining boards consider the educational standards established by the American Dental Association in determining the qualifications of dental hygienists and dental assistants to perform functions prescribed within rules or regulations of the board.

tributes to or results in an irremediable alteration of the oral anatomy.

"The board of dental examiners shall issue rules or regulations specifying the tasks that licensed dentists may, under the authority of this act, assign to (1) dental hygienists, and (2) dental assistants.

"The practice of dental hygiene shall consist of those prophylactic, preventive and other procedures that licensed dentists are authorized by this act and dental examining board rules or regulations to assign only to their employed licensed dental hygienists. The dental examining board shall issue rules or regulations defining the procedures that may be performed by licensed dental hygienists engaged in school health activities or employed by public agencies."

Dr. Gallagher offered the following suggestions for fuller utilization of the dental hygienist:

1. With each new patient or when the dental hygienist is new, she should be introduced to the patient by the dentist

who should explain the hygienist's preventive role.

2. She should take 10-15 minutes to educate each patient individually about preventive measures.

3. She should take at least an hour for scaling, root planing and curettage. These acts should be identified as 'treatment' instead of simply prophylaxis.

4. If necessary, she should make follow-up appointments to verify the effectiveness of her treatment and the patients' home care.

5. If she takes radiographs, these should be processed immediately and re-taken, if necessary.

6. She should demonstrate and explain pathological changes in the patient's mouth.

7. She can inspect and chart oral conditions in preparation for treatment planning by the dentist.

8. She can make impressions for study casts.

9. She can polish restorations and eliminate overhanging margins.

10. She can give dietary advice, perform caries activity tests and explain the value of topical fluoride applications and fluoridation.

11. She should be in charge of the recall system for the practice.

12. A roving assistant should aid the hygienist with sterilizing instruments, seating patients, making further appointments and when she performs ultrasonic scaling.

Dr. Gallagher stressed that dental students and auxiliaries must be trained together and learn the team approach while still in school. Office auxiliaries should be graded in the following order of seniority: the licensed dental hygienist, the certified dental assistant, the casually trained dental assistant, the receptionist and the office manager. Each auxiliary should have specific duties and should be fully acquainted with these duties, he said. Duties of the dental assistant and dental hygienist may overlap to some extent but should differ sufficiently so that each auxiliary takes pride in her role and cooperates instead of competing.

1. Conway, B. J. Modification of dental practice acts which will legalize expansion of auxiliary duties. *J. Amer. Dent. Ass.* 76:1050, 1968.

burning tongue in older patients

Arthur Elfenbaum, DDS, Chicago, Illinois

Burning tongue, a manifestation of glossitis is most commonly a symptom of disease elsewhere. Prominent systemic causes include avitaminosis, particularly of the B group, and anaemia, including pernicious anaemia, iron deficiency anaemia and Plummer-Vinson syndrome with dysphagia. Since the tongue often serves as a mirror of disease elsewhere, it is most important to investigate thoroughly every patient who complains of glossodynia.

La glossodynie est une manifestation de la glossite et est presque toujours le symptôme de l'existence d'une maladie ailleurs que dans la bouche. Certaines causes générales jouent un rôle important. On peut citer l'avitaminose, particulièrement du groupe B, et l'anémie, y compris l'anémie pernicieuse, l'anémie ferriprive et le syndrome de Plummer-Vinson accompagné de dysphagie. Puisque la langue reflète souvent la présence d'une maladie ailleurs que dans la bouche, il est de la plus haute importance que chaque patient qui se plaint de glossodynie subisse un examen médical complet.

More people attain advanced age than ever before, even though the average span of modern life is scarcely two years longer than the biblical three score and ten years. At the turn of the century, only 3 per cent of the American population was 65 or more years old. That proportion has more than tripled during the intervening years and may soon exceed 12 per cent of the general population which is also growing rapidly. To dentistry this means more elderly patients in most offices and that geriatric dentistry will become an important phase of clinical practice.

One of the most challenging disorders in older patients is glossodynia [*glosso-* + *ὀδύνη* pain]. At one time glossodynia was also known as glossopyrosis [*glosso-* + *πύρωσις* burning].

CLINICAL FEATURES

Patients who complain of glossodynia are generally in the climacteric years of life, known in women as the menopausal and post-menopausal periods. If glossodynia occurs in a younger woman, the patient has likely had a hysterectomy so that the resulting induced menopause interferes with the secretion of the sex hormones.

Before he examines a patient with glossodynia, the dentist must obtain a detailed dental and medical history. It is important to ascertain the onset, duration and character of the symptoms. What causes a remission or exacerbation? Are

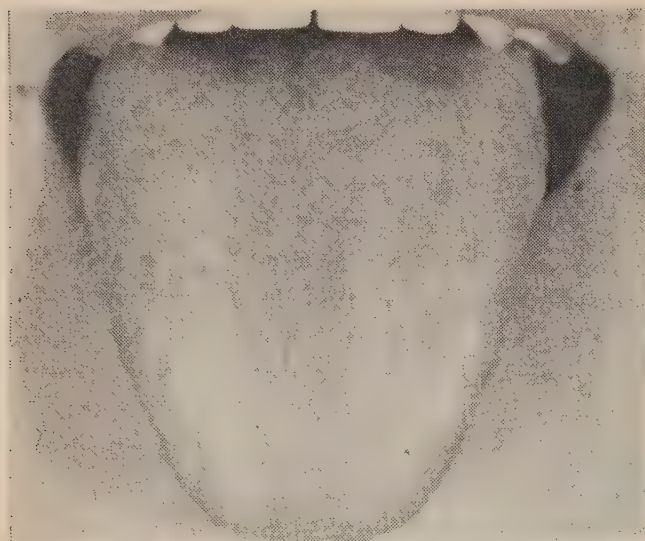


FIGURE 1 The tongue of an elderly man. The filiform papillae in the midline and at the posterior and lateral borders are atrophied. The shaded dots are a few remaining fungiform papillae. The angular cheilosis at the right corner may indicate a vitamin B complex deficiency.

there any related systemic disorders? A short diagnosis depends on the particular constellation of signs and symptoms in each case. These, in turn, determine the treatment. Even if the diagnosis is similar in two patients, the treatment and its prognosis may differ because of variations in personality, metabolism and tissue tolerance. Little wonder, then, that no



FIGURE 2 Tongue of a 67 year old woman who skimmed on food because her husband had to retire. The filiform papillae have disappeared from the marked area. A few round fungiform papillae can be seen.

two textbooks agree about the diagnosis and treatment of glossodynia.

Despite its identification with the tongue, the burning sensation may occur anywhere in the oral mucosa from the lips to the oropharynx. Though the tongue may sometimes display no visible or palpable abnormality, the symptoms are usually accompanied by atrophy of the filiform and fungiform papillae (Figure 1) that normally cover the dorsum of that organ (Figure 2). Healthy filiform papillae are firm, pinkish-grey, thread-like epithelial extensions that cover the entire dorsum (Figure 3). The fungiform papillae are fewer in number and shaped like mushrooms. Being shorter than the filiform papillae, they are never seen if the tongue is healthy. If the tongue becomes atrophic, the filiform papillae droop or disappear, exposing the heads of the fungiform papillae. Alternatively, the heads of the latter may become so congested with blood that the redness shows through the filiform threads. In any case, something is wrong if the red fungiform heads become visible. An exception is the red tongue of a young child where the papillae have not yet fully developed. Regardless of which papillae — the filiform or the fungiform — atrophy first, it is imperative to look for a possible systemic cause.

When all the papillae atrophy, the dor-

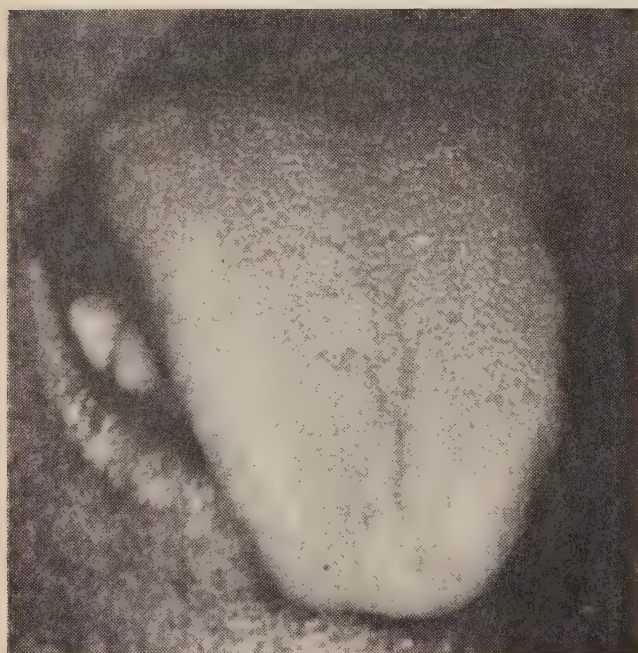


FIGURE 3 The dorsum of the healthy tongue in an 80 year old farmer is completely covered by filiform papillae. The man worked hard and ate highly nutritious food although he knew nothing about nutrients in his diet.

sum turns a beefy red. The tongue seems shrunken, its dorsal surface is smooth and shiny enough to reflect light, and it burns painfully (Figure 4). Though spicy foods, alcohol and smoking irritate the denuded surface of the tongue, these are not specific causes of glossodynia. In recovery from glossodynia, the symptoms usually abate before the papillae regenerate.

Normal taste buds can differentiate salt, sweet, sour and bitter taste without any conscious effort, but in glossodynia they are no longer protected by the papillae and the taste sensations become perverted. As a consequence, many elderly people complain that they cannot taste sweets (the buds that perceive sweet taste are located at the tip of the tongue) and they begin to indulge excessively in sweet foods and fluids. If the patient still has natural teeth, the sucrose content of the edibles may initiate rampant caries in teeth that were previously free from decay (Figure 5).

An itching tongue when the papillae are intact may signify decomposing food trapped in some developmental fissures. They should be spread and thoroughly irrigated and the patient should be shown how to keep the tongue clean.

VITAMIN B DEFICIENCY, METABOLIC DEFECTS

One of the commonest causes of glossodynia is a deficiency of vitamin B complex. Particularly prone are older people who claim they have no appetite early in the morning and eat an inadequate breakfast or no breakfast at all.

With ageing there is a retardation of the salivary flow, especially the watery serous component. As a result the saliva becomes ropy and causes considerable discomfort. The resultant xerostomia



FIGURE 4 Red, shiny tongue of a highly emotional woman who was so nervous that she could not eat properly. The tongue's atonicity lets it hang out of the mouth.

(dry mouth) also contributes to burning tongue. There may also be concomitant anorexia. As a consequence high-quality complete proteins are omitted from the diet because the meat that contains them is expensive and hard to chew with insufficient teeth. Yet these proteins furnish the essential amino acids needed for re-synthetization as body proteins.

Dry mouth is often associated with wrinkled features due to loss of moisture, fat and elasticity from the skin. When this condition affects the circumoral structures, the resultant 'purse string' mouth impedes the insertion of dental instruments and impression trays and often necessitates an increase of the interocclusal distance (freeway space).

Before he ascribes glossodynia to a vitamin B deficiency, the dentist must ascertain whether protein ingestion and metabolism are adequate. A sufficient intake of protein in itself is no guarantee of its utilization — particularly in patients

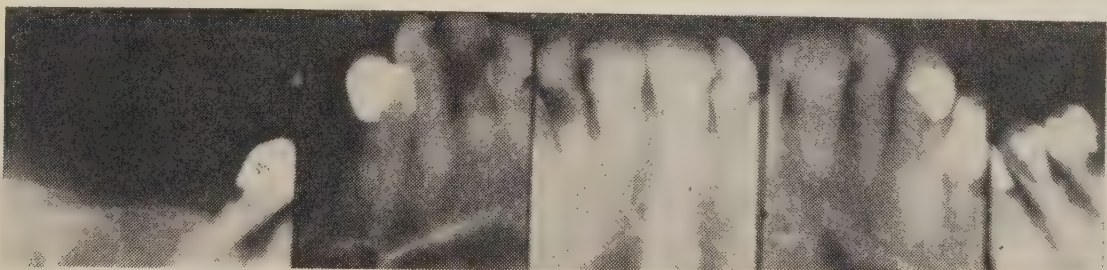


FIGURE 5 Radiographs showing rampant dental caries in an elderly woman with a very dry mouth. She also indulged too freely in sweets.

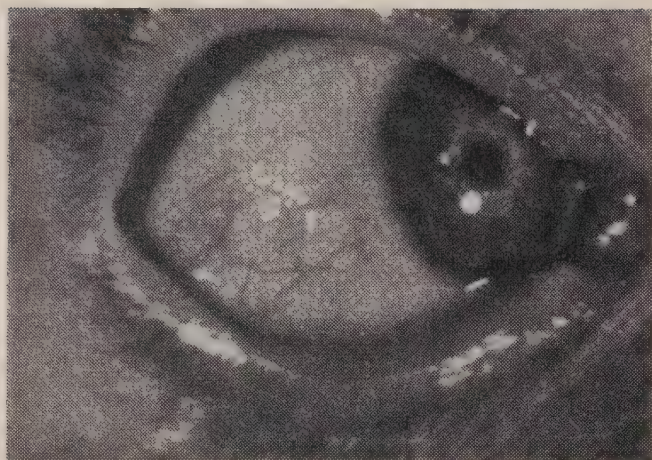


FIGURE 6 Congested small veins in the cornea of an alcoholic. The bloodshot eye is due to vitamin B complex deficiency, not to alcohol.

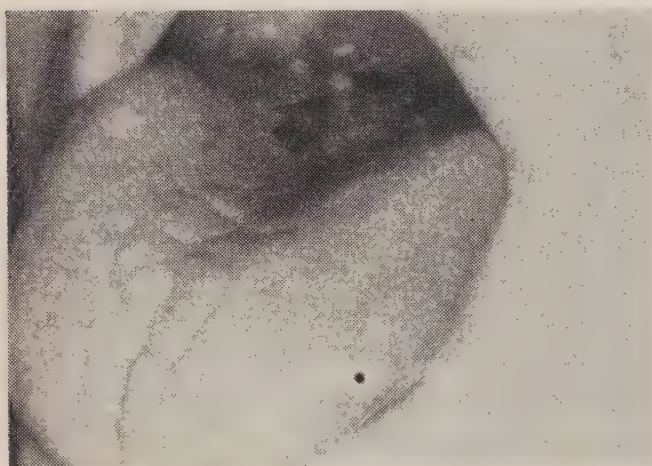


FIGURE 7 Atonic tongue of pernicious anaemia. It is so slack that the vallate papillae can be seen.



FIGURE 8 Geographic tongue, also known as wandering rash. The bald area begins at the midline, wanders over to the border and disappears. This condition is usually attributed to emotional upsets.

with faulty protein metabolism. This may arise from defective digestion, distribution, retention and utilization of the nutrients and inadequate excretion of metabolites. Faulty protein metabolism is common in diabetes and many other metabolic disorders. Laxatives and cathartics may likewise interfere with protein utilization. These remedies are favoured by many older patients; yet their powerful action eliminates undigested food and nutrients too quickly. Elderly people are likewise inclined to use mineral oil to relieve constipation. But the oil dissolves vitamins A and D and deficiencies may manifest in the mouth. Hyperkeratosis of the mucosa may result from hypovitaminosis A while a deficiency of vitamin D may disturb the calcium phosphorus balance.

Burning tongue may be accompanied by other signs of vitamin B deficiency such as angular cheilosis and photophobia. Venous capillaries of the cornea may become prominent giving the eyes a bloodshot appearance (Figure 6). A similar effect is observed in alcoholism in which vitamin deficiency is always concomitant.

Vitamin B supplements can alleviate glossodynia in older people who are prone to defective metabolism. Trace minerals can be combined with the vitamin complex but there may be no justification for administering vitamins A and D or other ingredients that are often present in proprietary preparations of vitamin B.

The vitamin capsule should be taken before meals and washed down with a full glass of water, thereby increasing the intake of water. The meal must also contain protein. Vitamin B breaks down this protein into constituent amino acids which can be resynthesized by the intestinal bacterial flora into other proteins that the body needs. Antibiotics suppress the intestinal bacteria. Therefore patients who receive antibiotics require additional or more potent vitamin B complex. The action of vitamin B complex is catalytic, not therapeutic. If there is no protein in the meal, the vitamin may conceivably catalyze protein in the body tissue and do harm.

PERNICIOUS ANAEMIA

Glossodynia also occurs in pernicious anaemia which afflicts many old people (Figure 7). This chronic disease is associated with a lack of Castle's intrinsic factor in the mucosa of the stomach and may be related to vitamin B₁₂ deficiency. Normal gastric juice contains intrinsic factor which acts on extrinsic factor (probably vitamin B₁₂) in the food to produce a third substance (anti-anaemia factor, erythrocyte maturation factor). The latter is stored in the liver and carried by the blood stream to the bone marrow where it brings about maturation of the erythrocytes. Pernicious anaemia is characterized by low red and white blood cell counts and achlorhydria. The latter is particularly significant because hydrochloric acid is essential for digestion and the metabolism of vitamin C. Many patients with pernicious anaemia have spoon-shaped soft finger nails that break easily. Patients who believe that a tooth, a restoration or a dental prosthesis is irritating the tongue may seek relief from a dentist; but if glossodynia is due to pernicious anaemia, consultation with a physician is essential.

ENDOCRINE DYSFUNCTION

Glossodynia may also indicate a hormonal deficiency. Certainly the integrity of vaginal epithelium depends considerably on the proper secretion of oestrogen. A similar relationship may hold for the oral mucosa, even though we do not have reliable substantiating evidence. However, some elderly women with glossodynia have reported menstrual problems in their earlier years and a very trying menopause, indicating some hormonal imbalance. The dentist should be alert to any possible endocrine disturbance but hormonal treatment belongs in the realm of medicine, not dentistry.

PSYCHOSOMATIC MANIFESTATION

Bald, painful, burning tongue is frequently seen in neurotic individuals. The

cause is obscure. Some of these people do not eat properly. In others, tension, frustration and emotional upsets may be the precipitating factors. Some people can tolerate all kinds of stress; others succumb to the slightest strain. That may be why glossodynia has been variously ascribed to allergies, lack of natural teeth, tobacco, spices, condiments, chemicals in dentifrices, mouthwashes and cosmetics. The plastic material in dentures has also been repeatedly blamed for burning tongue, but the claim is valid only if the patient is likewise sensitive to fabrics and clothing made of acrylic textiles.

TERMINOLOGY

The nomenclature applied to burning tongue is virtually unlimited. Atrophic glossitis identifies the bright red tongue associated with a niacinamide deficiency. A magenta colour is ascribed to a riboflavin deficiency. Bacterial, insect and plant poisons are blamed for acute diffuse glossitis. Geographic tongue is characterized by papillae that atrophy in groups of white-bordered red patches (Figure 8). These migrate laterally from the centre of the dorsum and disappear only to start again at the centre. Hunter's glossitis and Moeller's glossitis are now considered archaic eponyms that were once applied to certain specific histopathological entities. Plummer-Vinson's syndrome, another eponym, is used when atrophic glossitis is accompanied by dysphagia, splenomegaly and hypochromic anaemia.

The plethora of names is readily explained by the multicausal origin of glossodynia. The tongue pathosis is but one facet of a more deep-seated disorder. The pain and the burning of the tongue can be alleviated empirically by various means, but the whole patient needs treatment. It is for the physician as well as the dentist to determine whether the patient needs better nutrition, vitamin B₁₂, hormonal medication or psychotherapy.

Doctor Elfenbaum is a senior attending staff member at Michael Reese Hospital and Medical Centre, Chicago, and professor emeritus at the University of Illinois and Northwestern University, Chicago.

431 Oakdale Avenue—9B

improved lighting for the dental office

*N. C. Ferguson, DMD,
New Westminster, BC*

A year ago I decided to improve the colour values and intensity of the lighting system in my practice. An early model four-tube 40 watt fluorescent unit (Figure 1) was removed from the main operatory and replaced by three individual four-tube fixtures. The new units (Figure 2) were installed parallel on a nine foot ceiling, centered, and equipped with a double switch to allow separate use of four, eight or 12 of the 40 watt tubes. Each unit was fitted with clear acrylic prism diffusers to even out the light source without introducing colour change. The lamps were of a new brand and the manufacturer claimed they could produce essentially the same colour spectrum as daylight from a clear northern sky. The walls of the room, which faces north, were left in a neutral beige tone. Field illumination was furnished by a standard dental operating light with a filament projection lamp.

At first, the operatory seemed excessively bright when all 12 fluorescent tubes were alight, but within two days this level of illumination became quite comfortable for continuous use. The added intensity caused the pupils to contract and increased the depth of focus noticeably. This is an important consideration after middle age when the accommodation of the lens decreases sharply.

The intensity, coupled with the colour balance, enabled me to differentiate more shades in natural teeth and shade guides. Although colour matching and the selection of shades became more difficult, the resulting crowns seemed more satisfactory than any made prior to the lighting change.

Viewed from outside, the operatory windows now seemed to blend with the colour of the sky instead of showing the yellow hue of other offices. The light readings at the level of the mouth were proportional at the various intensities, being 90, 170 and 250 lumens. These readings are only a fraction of those obtained from unobstructed outdoor skylight, which is safe and comfortable. It seems logical, therefore, that the intensity may be increased many times yet.

Two weeks later I duplicated the new lighting in my laboratory and in the second operatory. The new system has now been in use for one year. My dental hygienist and I find the raised intensities comfortable and desirable, as have five other dentists who have operated in these premises as guests. Elsewhere, porcelain colour matching improved when a desk unit of two similar 15 watt fluorescent lamps was installed above the work area of a porcelain technician in a commercial laboratory, so that crowns could be baked under light corresponding to that under which the shade was selected.

SUMMARY AND CONCLUSIONS

Poor general illumination of the dental operatory contributes to eye fatigue as the dentist constantly transfers his gaze from an area of high intensity provided by the operating light to an area of lesser

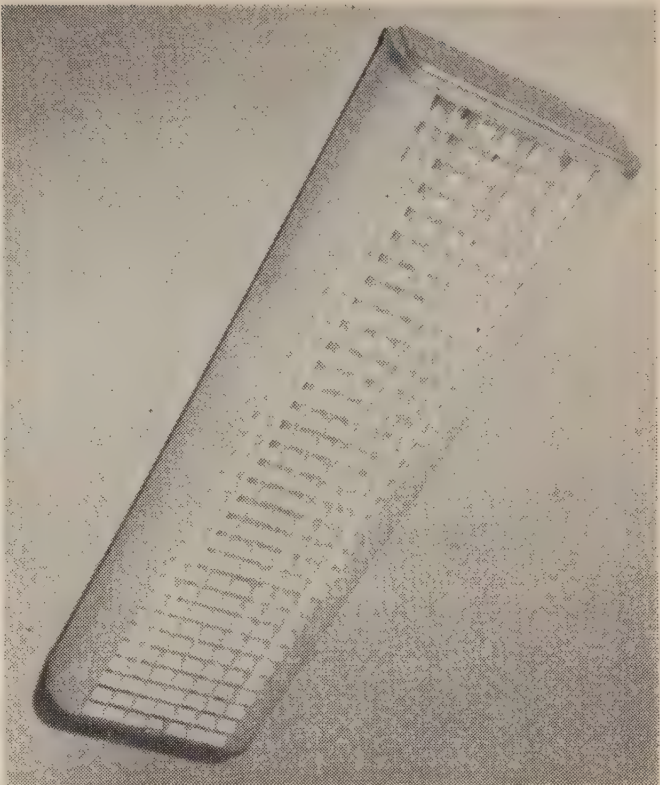


FIGURE 1 Old 4-tube 40 watt fluorescent light fixture.

surrounding illumination. In many offices the surrounding illumination may be safely augmented with corresponding improvement of visual acuity and comfort. Lamps that contribute all the colours of daylight in balanced proportion seem to increase the accuracy of porcelain colour matching. I will pursue further experiments with increased light intensity and various combinations of illumination.

624 Sixth Street

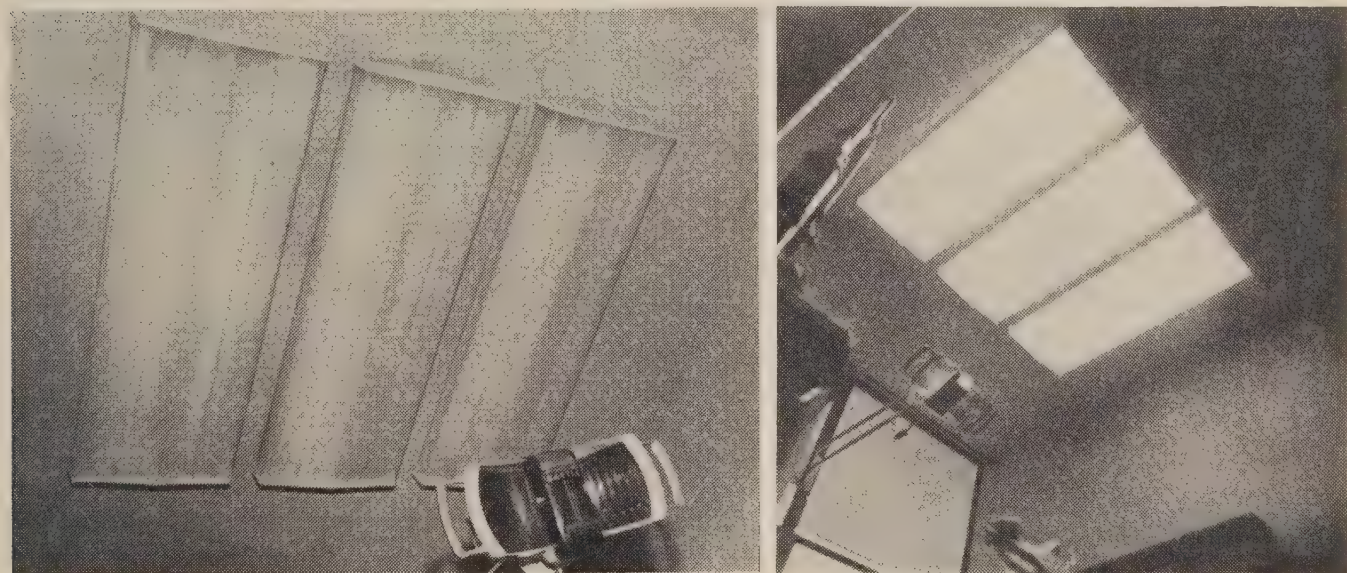


FIGURE 2 The three new individual 4-tube light fixtures. Left: close-up view. Right: all twelve of the 40 watt tubes illuminated.

treatment of oligodontia

report of case

F. E. Short, DDS, Winnipeg, Man.

Early detection of multiple missing teeth, as this report shows, facilitates treatment planning and may prevent a subsequent malocclusion.

Ce rapport démontre que la découverte, dès l'enfance, de l'absence de plusieurs dents, facilite le plan de traitement et peut parer à une malocclusion ultérieure.

Oligodontia or multiple missing teeth, often misnamed partial anodontia, occurs more commonly than is generally believed.¹ Early diagnosis of this anomaly aids in planning interception of any future malocclusion. Subsequent orthodontic and restorative treatment can then be kept to a minimum.

The presence of all the teeth except third molars can often be determined by age five, and a child at this age can learn to tolerate No. 10 intra-oral films. A complete intra-oral radiographic survey, comprising four anterior, four posterior and two bitewing films, is necessary for this purpose. This survey must show the deciduous teeth and the buds of the develop-

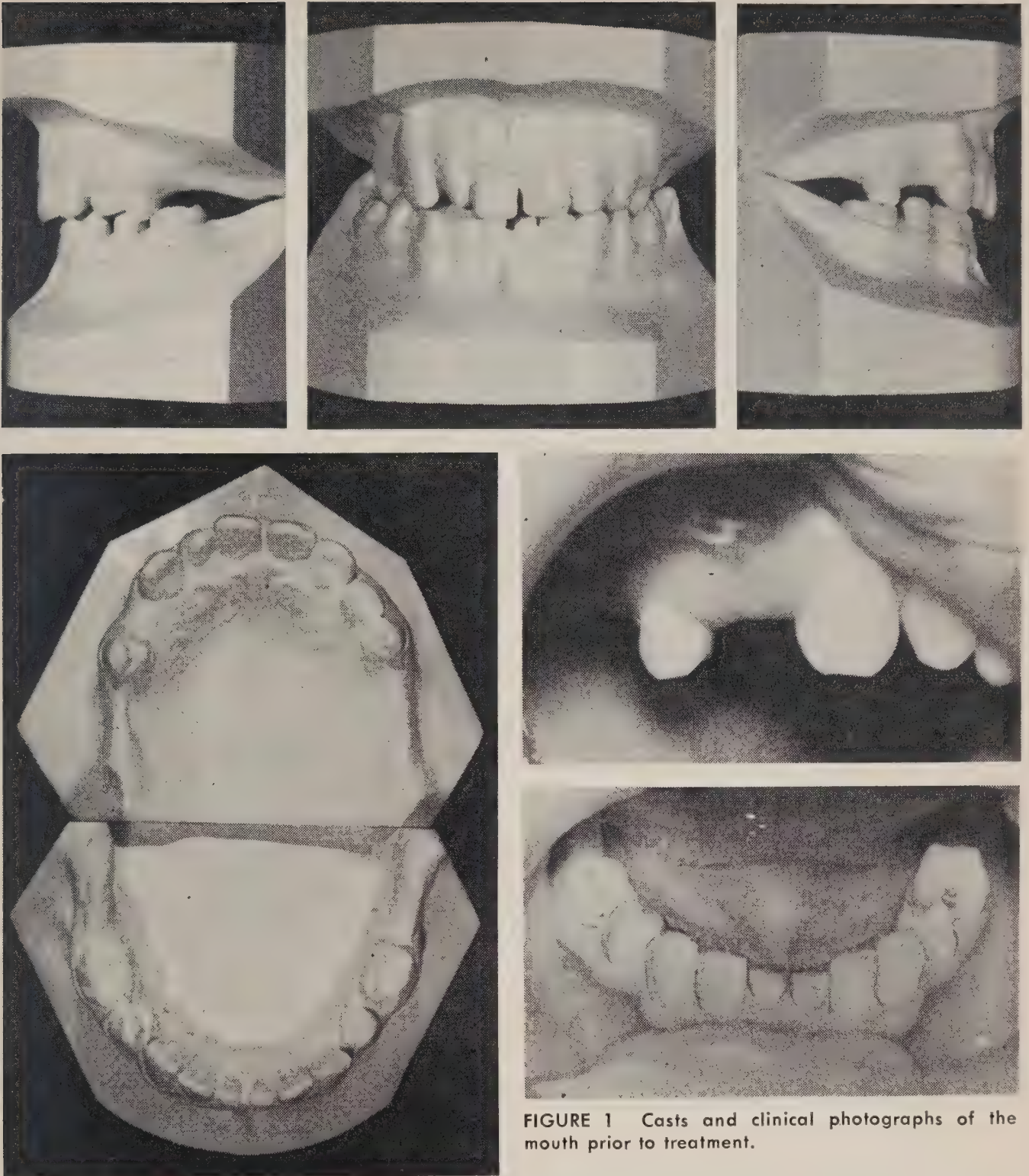


FIGURE 1 Casts and clinical photographs of the mouth prior to treatment.

ing permanent teeth. Bitewing radiographs alone are inadequate because they do not disclose two out of three missing and supernumerary teeth.²

CASE REPORT

History and Examination.—A 15 year old girl sought aid because she could not

chew food properly with the 'baby teeth' in her lower jaw. Her past medical history was negative. Six months earlier, she had visited a dentist who took bitewing radiographs, extracted some deciduous teeth to permit eruption of permanent successors, and made several amalgam restorations.

Visual examination disclosed the presence of 18 teeth: 5321, 13c5, e432a,

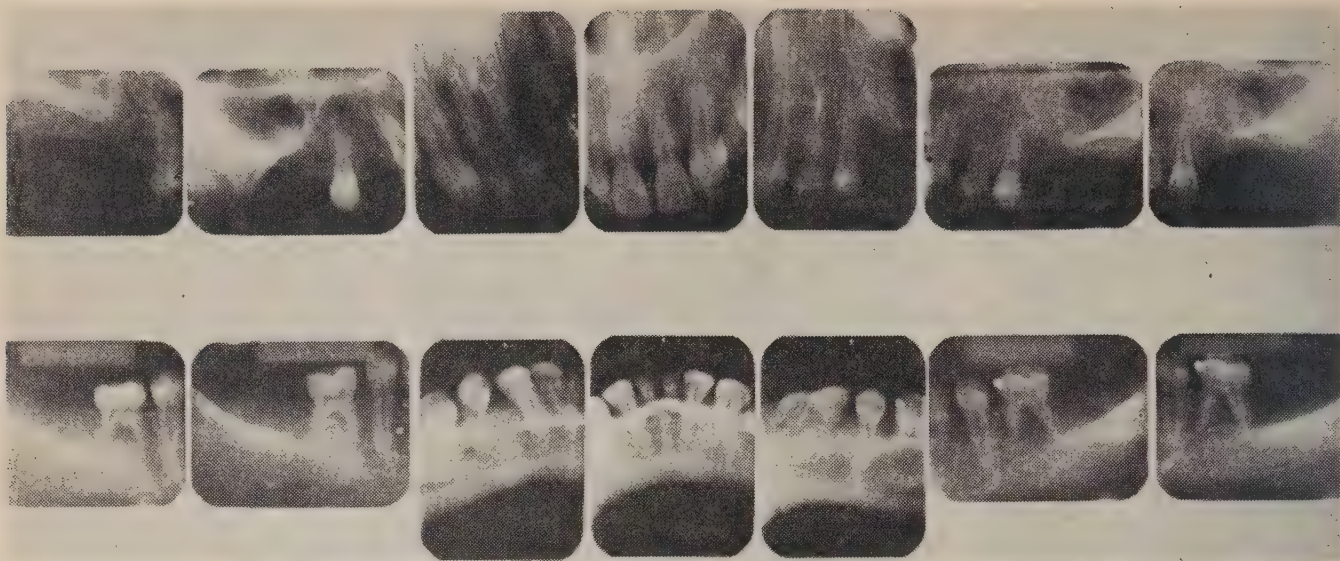


FIGURE 2 Diagnostic periapical radiographs.

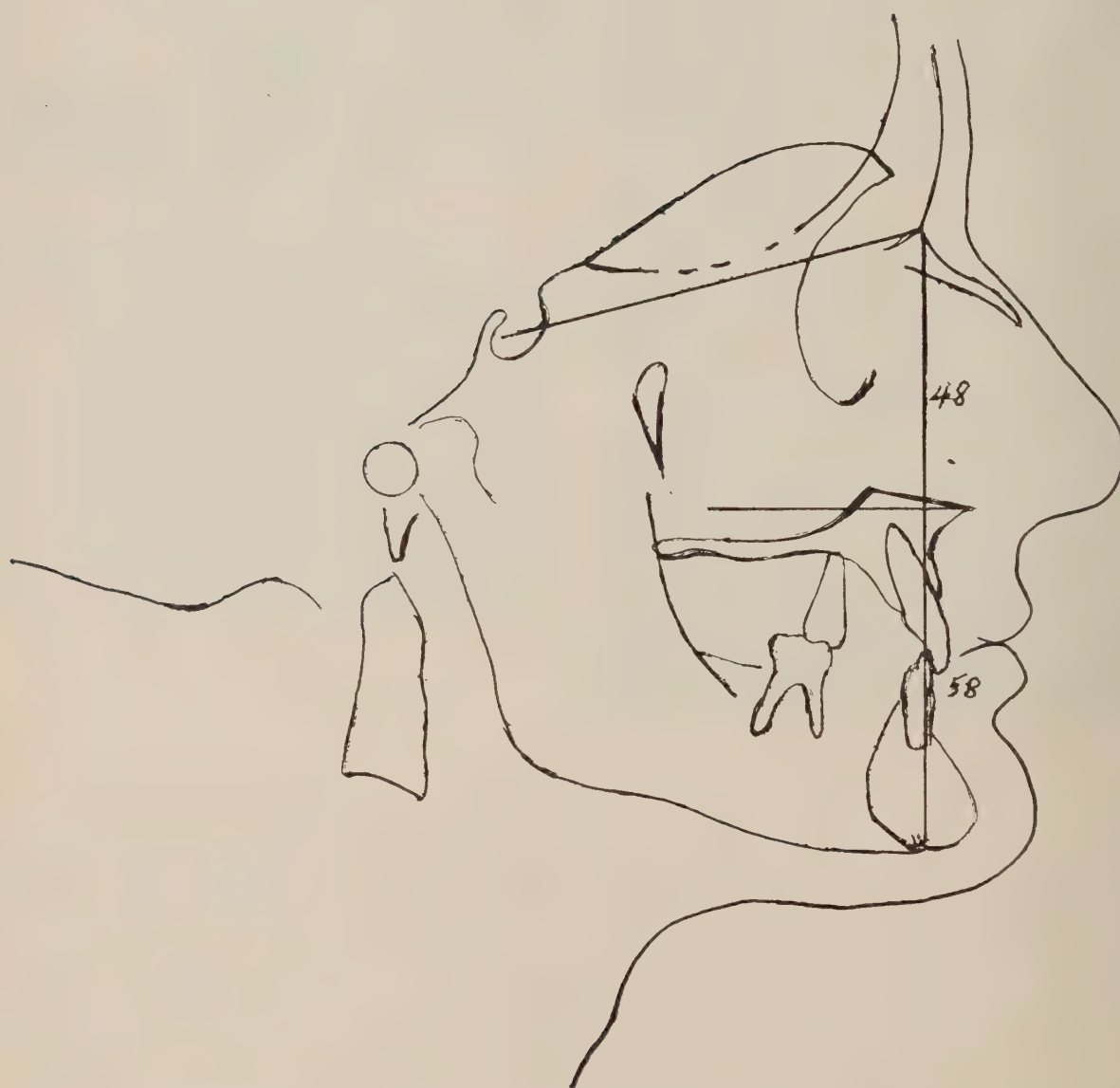
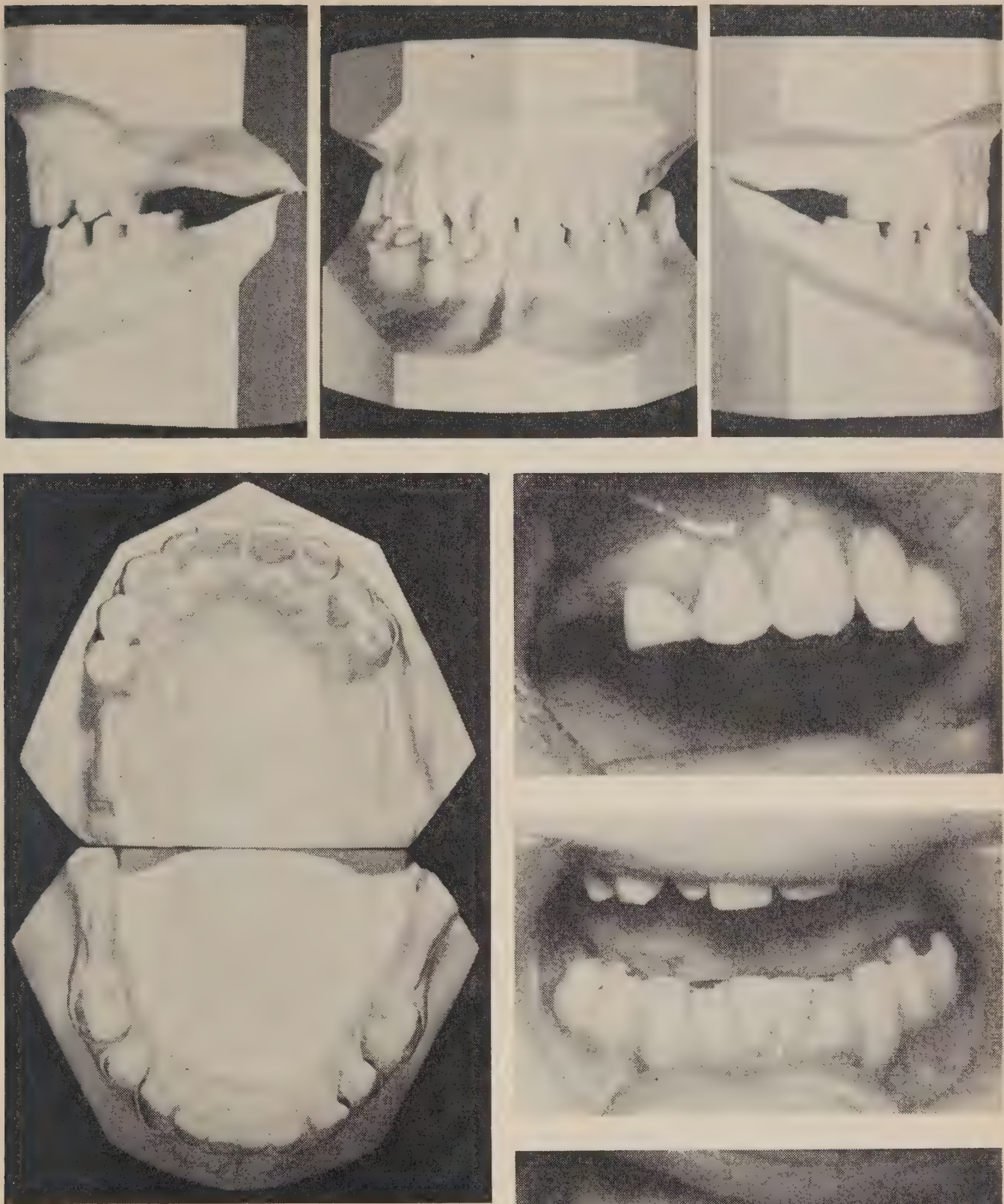


FIGURE 3 Tracing made from lateral cephalometric radiograph shows measurements for Wylie vertical profile analysis.



[a234e. The following diagnostic records were obtained: clinical photographs and study casts (Figure 1) and a complete radiographic survey of the mouth (Figure 2). The patient was then referred to an orthodontist for consultation, particularly with regard to the possible loss of vertical facial dimension.

FIGURE 4 Casts and clinical photographs of mouth after treatment.

The radiographs confirmed the absence of 19 permanent teeth. The study casts disclosed a unilateral crossbite between the upper right second bicuspid and the lower right second deciduous molar, over-eruption of the lower right first bicuspid, anterior overbite, a diastema between the upper central incisors, and attrition and labial tipping of the upper left cuspid. Analysis of the occlusion revealed that the patient chewed mostly on the left side.

Orthodontic examination included a lateral cephalometric radiograph to determine possible loss of vertical dimension from over-closure or lack of vertical growth of the alveolar processes. Measurements were made for upper face height (nasion to anterior nasal spine), lower face height (anterior nasal spine to menton), as well as total face height (nasion to menton). The results, when compared to the standards reported by Ballard and Wylie,³ fell within the limits for acceptable facial balance (Figure 3). Nevertheless, the long-term outlook for this patient seemed unfavourable.

Treatment.—This consisted of the following:

1. Extraction of the lower deciduous central incisors and insertion of a temporary removable acrylic partial denture with wrought clasps engaging the lower second deciduous molars.
2. Reduction of the lower right first bicuspid by occlusal grinding.
3. A fixed bridge between the upper left cuspid and second bicuspid, correcting the crossbite. This reduced the cost of treatment and eliminated additional time that would have been required to treat the crossbite.
4. A fixed bridge between the lower lateral incisors.
5. Reduction of both upper central incisors (Figure 4).

DISCUSSION

Missing teeth occur more frequently than supernumerary teeth. Between 3 and 4 per cent of the population have one

of more teeth congenitally missing.¹ Anodontia — the complete absence of all teeth — is rare, however. Most frequently missing, in order, are (1) maxillary lateral incisors, (2) maxillary and mandibular third molars, (3) mandibular second bicuspid, (4) maxillary second bicuspid, and (5) mandibular central incisors.²

Beyron's⁴ serial investigation of occlusal changes in adult dentitions reflects the importance of early diagnosis and management of oligodontia. He showed that occlusal changes develop according to the individual's pattern of gliding movements when the teeth are in contact. The changes consist of attrition, tipping and migration of teeth. Gliding movements that follow a steep path and have few teeth in contact are avoided or restricted. Movements that follow a flat path with several teeth in contact are preferred and predominate. The changes in position of the teeth are favourable or unfavourable according to the direction and distribution of stress.

SUMMARY

A method for managing a case of multiple missing teeth (oligodontia) in an adolescent patient has been described. Treatment included the placement of two fixed bridges. One of these was intended to correct a unilateral crossbite.

The treatment was intended to thwart possible long-term deleterious effects on the occlusion as revealed from serial studies of occlusal changes in the adult dentition.

Dr. Short, formerly a demonstrator in the Department of Restorative Dentistry at the Faculty of Dentistry, University of Manitoba, is now attending Indiana University School of Dentistry, Indianapolis.

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*Indiana University School of Dentistry,
Indianapolis, Indiana*

basal cell naevus syndrome

report of case

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M. Sabin, DDS, Southfield, Mich. and
D. M. Laskin, DDS, MS, Chicago, Ill.

Recurrent jaw cysts and basal cell carcinomas are two of the characteristics of this syndrome which may be commoner than once thought. Dentists have an important role in diagnosing the condition as shown by this example in a 24 year old school teacher.

Les kystes récidivants de la mâchoire et les épithéliomas baso-cellulaires sont deux caractéristiques de ce syndrome qui peut être plus courant qu'on ne le pensait. Le dentiste a un rôle important à jouer dans le diagnostic de cette affection comme le montre ce cas d'un enseignant de 24 ans.

The basal cell naevus syndrome comprises various cutaneous, osseous, neurological, ophthalmological and reproductive anomalies. Common features of the syndrome are: (1) skin — multiple naevoid basal cell carcinomas, palmar dyskeratosis; (2) skeletal system — bifurcated ribs, synostosis of ribs and cervical rudimentary ribs, kyphoscoliosis and fusion of vertebrae, frontal and temporoparietal bossing; (3) central nervous system — medulloblastoma, dural calcifications, mental retardation; (4) eye — hypertelorism; (5) oral manifestations — multiple jaw cysts which may or may not be associated with unerupted teeth.

In 1939 Straith¹ was the first to report a series of patients from one family who exhibited multiple basal cell carcinomas associated with multiple cysts of the jaws. There appeared to be a hereditary tendency.

In 1951 Binkley and Johnson² reported a 31 year old woman with basal cell naevi, agenesis of the corpus callosum, dental cysts, a bifid rib and a fibroma of the ovary.

The combination of these features was so consistent that Gorlin and Goltz³ termed it a syndrome. Since there is a familial tendency, they suggested that it is inherited as an autosomal dominant trait.

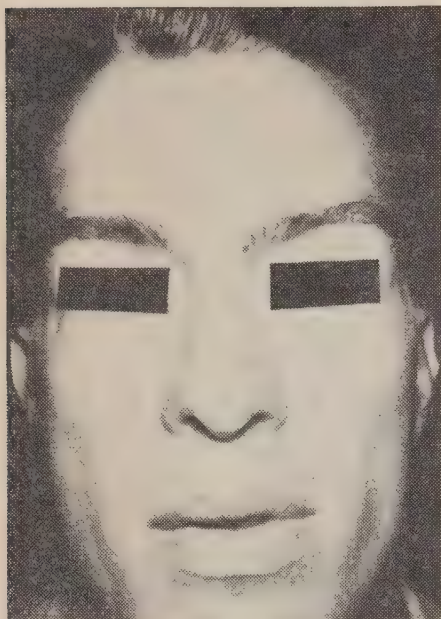


FIGURE 1 24 year old man with multiple cutaneous naevoid lesions on the forehead, bridge of the nose and cheeks.

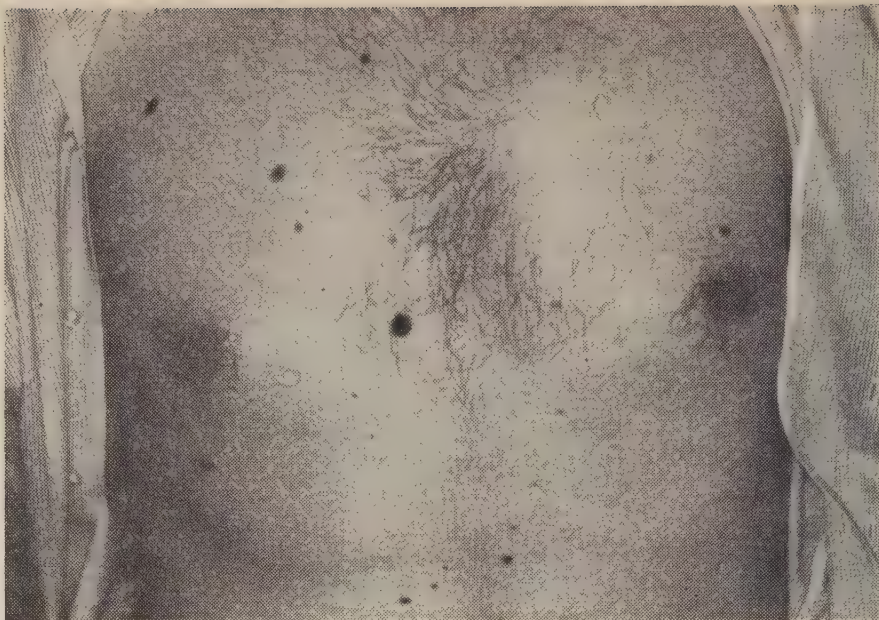


FIGURE 2 Multiple basal cell naevi of chest. Numerous similar skin lesions were also present on the patient's neck and back.

In 1968 there were two further reports of basal cell naevus syndrome.^{4,5} The following report illustrates an additional case of this syndrome.

REPORT OF CASE

A 24 year old white male school teacher came to the oral surgery clinic, University of Illinois Research and Educational Hospitals, Chicago, in July 1966 for removal of a cyst in the left maxillary sinus. The patient was in apparent good health. Eight months previously an oral surgeon had tried to enucleate a cyst from the left maxillary sinus and told the patient that the removal was incomplete and would require further surgery. The patient was subsequently referred to us for the operation. The sinus was asymptomatic, with no history of pain, tenderness, swelling or drainage.

Past History.—Previously, 10 cysts of the maxilla and mandible had been removed on eight separate occasions. Many of the cysts were associated with impacted teeth. The sequence of treatment was as follows:

1958—cyst with an impacted lower right third molar removed.

1959—cyst with an impacted lower left third molar removed.

1960—cyst with an impacted upper right third molar removed.

1961—cyst with an impacted upper left third molar removed.

1962—cyst of left maxillary sinus with an impacted tooth just below the left orbit removed.

1963—three small cysts were removed in the mental area of the mandible. These cysts were not associated with any teeth. Postoperatively, the mandibular central and lateral incisors became non-vital and the patient had root canal therapy performed on the teeth.

1964—cyst of the right maxillary sinus with an impacted tooth removed.

1965—attempted removal of cyst from the left maxillary sinus.

Family History.—There were no siblings. The patient's mother was alive and well with a history of having had seven cysts of the mandible and maxilla removed and two soft tissue 'cysts' removed. A maternal uncle had had 23 skin 'cysts' removed.

Physical Examination.—The oral hygiene was good. Several restorations were present in the remaining teeth. The mucous membrane of the mouth and oropharynx appeared normal. The patient had very prominent supra-orbital ridges. There were also several pigmented naevi present on the face and further examina-

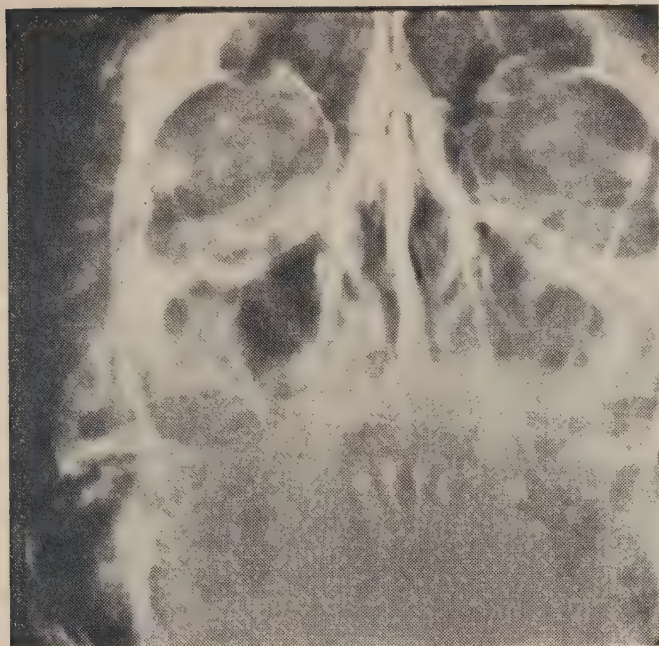


FIGURE 3 Water's projection radiograph showing clouding of left maxillary sinus.

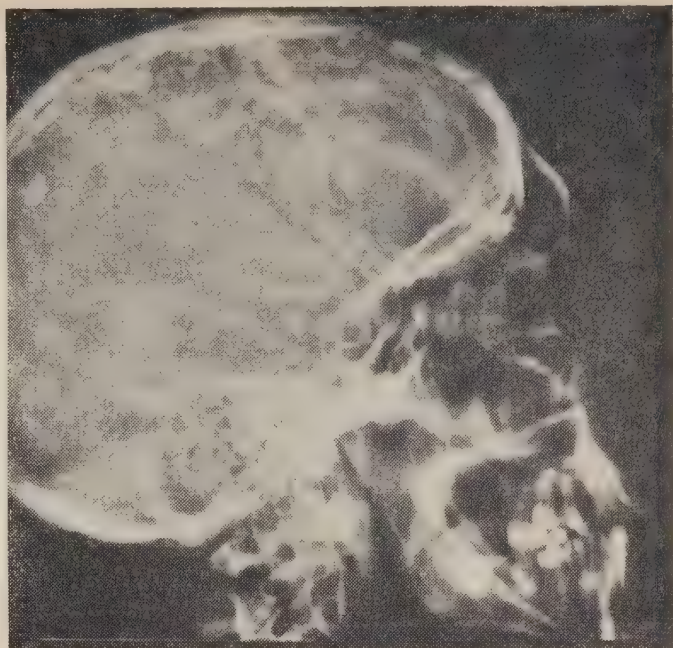


FIGURE 4 Lateral skull radiograph showing generalized dural calcifications.

tion revealed many naevi on the neck, chest and back.

The patient was a well nourished and sturdy man (Figure 1). His blood pressure was 120/88, the pulse was 80 and regular, and the respiratory rate was 16/min. The head exhibited moderate frontal bossing and there were cutaneous lesions on the forehead and face. The cardiovascular, respiratory, gastro-intestinal, genito-urinary and neuro-muscular systems were within normal limits. The skin had many pigmented naevi. Most of these were above the waist, a few being flat and pink with slight scaling (Figure 2).

The clinical impression was that of basal cell naevus syndrome. We therefore requested further radiographic examination, laboratory tests and dermatological consultation.



FIGURE 5 Panoramic radiograph showing an impacted second molar with an associated cyst-like radiolucency. Another radiolucency is present between the mandibular cuspid and lateral incisor.

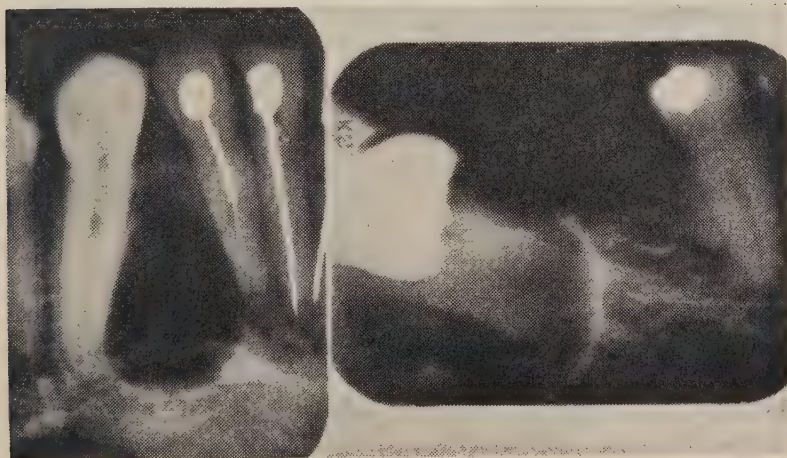


FIGURE 6 Periapical radiographs showing the same areas as in Figure 5.

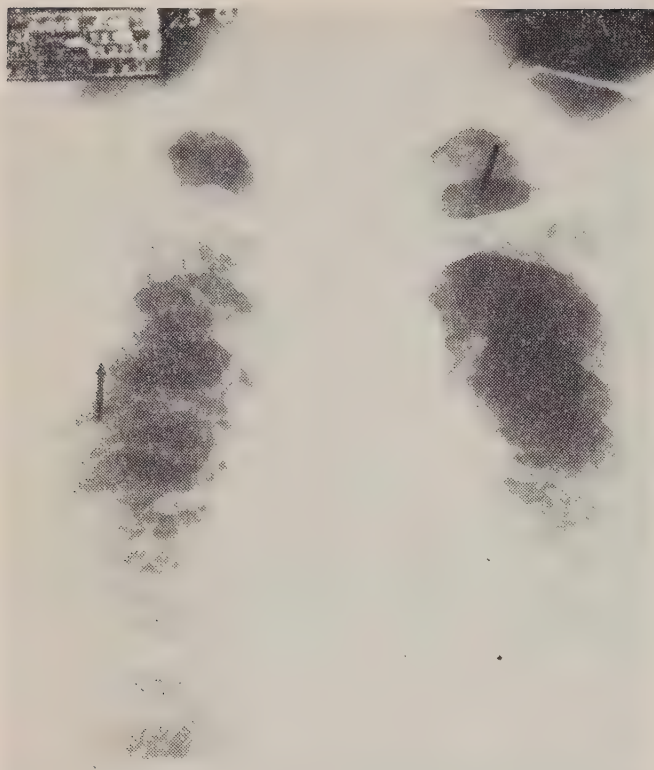


FIGURE 7 Anteroposterior radiograph of chest. Arrows indicate anterior splitting of right second and third ribs and beginning of a cervical rib on the left.

Radiographic Report.—Multiple views of the skull and mandible including peri-apical films (Figures 3-6) revealed clouding of both maxillary sinuses (more pronounced on the left), a cyst-like radiolucent area associated with an impacted second molar in the right mandible, a cyst-like radiolucency of the right anterior mandible between the cuspid and lateral incisors, and generalized dural calcifications.

A long bone survey disclosed normal bone and soft tissue densities.

A chest film (Figure 7) revealed the beginning of a cervical rib on the left side as well as anterior splitting of the right second and third ribs.

Laboratory Data.—Haematological findings were as follows: haematocrit 47 per cent; haemoglobin 15.6 Gm. per cent; white blood cells — 7,900/cu. mm. with a normal differential. Urinalysis disclosed no reducing sugar, protein or acetone. The specific gravity was 1.013. A few epithelial cells were present in the urine.

Blood chemistry findings were as follows: calcium 5.1 mEq./L.; total protein 7.5 Gm./100 ml.; alkaline phosphatase — 6.1 King Armstrong units. The VDRL test for venereal disease was negative.

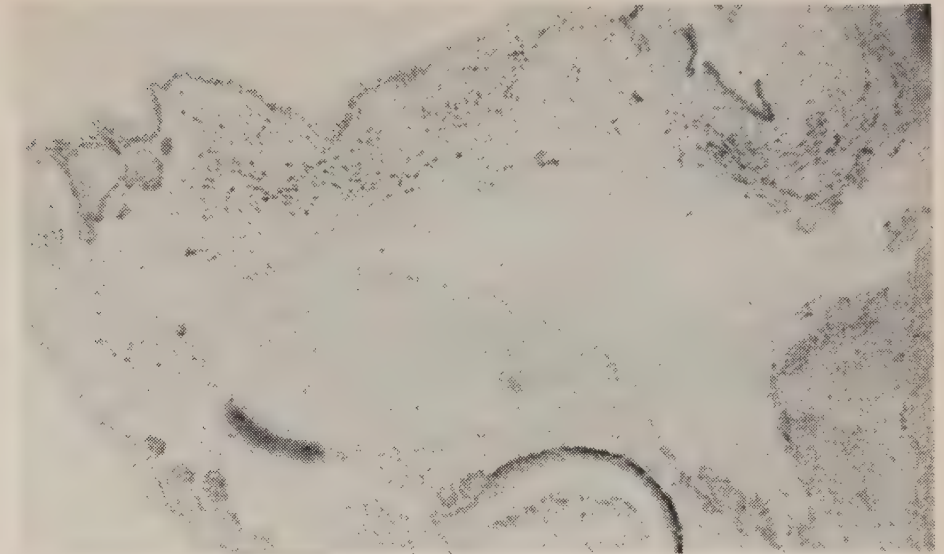
Dermatological Report.—Pitting of the palms of the hands was noted. Many of the pigmented skin naevi resembled basal cell carcinomas. Biopsy was requested during the patient's intended hospitalization.

Surgical Procedure.—The patient was admitted to the hospital on July 19 for surgical exploration of the radiographically involved areas of the maxilla and mandible and for biopsy of the skin naevi. Haematological and urinalysis findings were within normal limits at this time. A chest radiograph showed no signs of any active chest disease. We prescribed oral tetracycline 250 mg. q.i.d.

On the following day he was taken to the operating room after being premedicated with meperidine 100 mg. IM and scopolamine 0.4 mg. IM. Under general anaesthesia the patient was prepared and draped in the usual manner. A 2½ cm. incision was made along the crest of the right mandibular alveolar ridge from the third molar region to the bicuspid area. A mucoperiosteal flap was elevated and reflected exposing the crown of an impacted second molar and an attached cyst-like membrane. Buccal bone was removed to expose the tooth more adequately. The tooth and attached sac were elevated out of the bone. The flap was then repositioned and closed with 3-0 black silk suture. Another mucoperiosteal flap was reflected along the anterior part of the mandible extending along the cervical necks of the anterior teeth from the right first bicuspid to the left cuspid. Bone was eroded between the right cuspid and lateral incisor and a cyst-like sac was enucleated from the area by means of curettes. The flap was repositioned and closed with 3-0 black silk suture.

A Caldwell-Luc approach was then made in the canine fossa to the left maxillary sinus. The mucoperiosteum was elevated and a small hole was made into the sinus with a mallet and chisel. A Ker-

FIGURE 8 Photomicrograph of a cystic lesion surrounding the crown of the mandibular right second molar. The cyst is lined by stratified squamous epithelium and has a connective tissue wall. Note the microcyst in the larger cystic wall. H.E. x 100.



rison punch was used to enlarge the bone opening to a diameter of 2½ cm. Two masses were curetted from the sinus. One was cyst-like and ruptured upon removal exuding a viscous yellow material; the other was a semi-solid, polypoid, jelly-like mass. The sinus was irrigated with saline solution and the sinus membrane was examined and left intact. The bone opening was filed smooth with a bone rasp and the flap was repositioned and closed with 3-0 black silk suture. An Elastoplast pressure bandage was applied to the skin over the left maxillary sinus and the operation was terminated. The estimated blood loss was 150 ml. The patient was taken to the recovery room awake and responsive to verbal instructions.

Pathological Findings and Postoperative Course.—The patient was given tetracycline 500 mg. IV b.i.d. for one day. He received the antibiotic orally thereafter, taking 250 mg. q.i.d. On the second postoperative day, two punch biopsies were taken from skin naevi on the back and chest under local anaesthesia. The patient was discharged that evening. We followed him in the outpatient clinic and removed the sutures on the seventh postoperative day.

The specimen from the left maxillary sinus consisted of chronically inflamed sinus membrane with strips of collagenous connective tissue enclosing large numbers of cholesterol clefts. It was judged a developmental cyst with chronic inflammation. The specimen from the

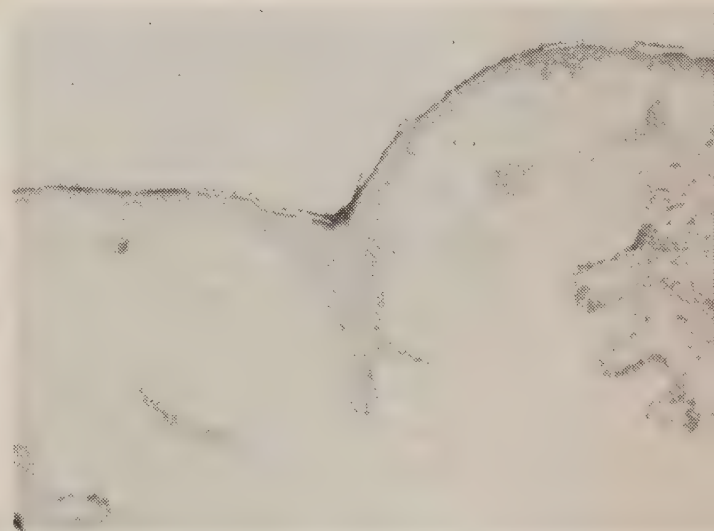
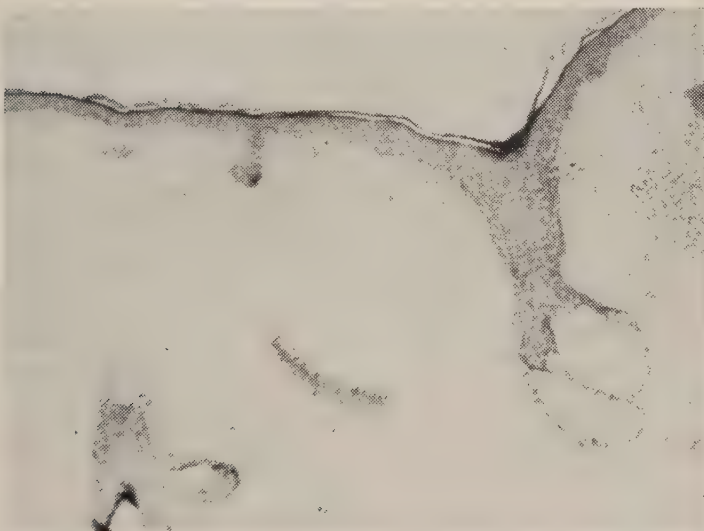


FIGURE 9 Low power photomicrograph of specimen from anterior chest wall showing sebaceous gland and basal cell carcinoma. H.E. x 100.

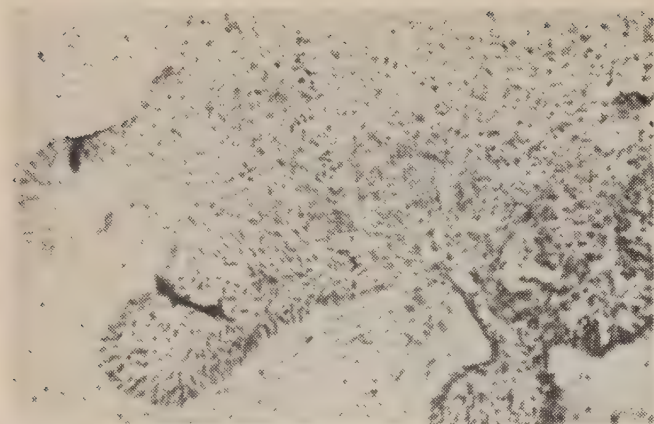


FIGURE 10 Higher magnification of basal cell carcinoma in Figure 9. Typical of this lesion is the polarization of the peripheral layer of cells. H.E. x 400.

right mandibular molar area was consistent with a dentigerous cyst (Figure 8). The specimen from the right anterior portion of the mandible was consistent with a developmental cyst. Skin specimens were identified as cellular compound naevus and basal cell carcinoma of skin (Figures 9 and 10).

The patient was seen two weeks later. By this time the intra-oral wounds were healing well. The patient also returned to the dermatology clinic for further treatment. Eight more naevi were removed from the skin; six of these were diagnosed as basal cell carcinomas of the skin. More lesions were to be excised later but the patient left Chicago and was lost to further treatment and follow-up.

DISCUSSION

This patient demonstrated many characteristics of the basal cell naevus syndrome which consists primarily of multi-

ple naevoid basal cell carcinoma of the skin, cysts of the jaws, and vertebral and rib anomalies (most commonly bifid rib). The syndrome is thought to be inherited as an autosomal dominant trait occurring about once in every 800-1,000 patients. Though not rare, it has only been reported as an entity in the past 10 years. The dentist has an important role in diagnosing the condition as shown by this report.

Apart from the more serious problem of treating the multiple basal cell carcinomas, the jaw cysts tend to recur even after apparent thorough curettement. Conscientious follow-up of these patients is therefore imperative.

Dr. Direnfeld was a former resident in oral and maxillofacial surgery at University of Illinois Research and Educational Hospitals, Chicago. He is now a member of the active attending staff, Toronto East General Hospital, and a demonstrator in the Departments of Oral Surgery and Oral Pathology, Faculty of Dentistry, University of Toronto. Dr. Sabin was formerly a resident in oral and maxillofacial surgery at University of Illinois Research and Educational Hospitals, Chicago. He is now an instructor in anatomy at the College of Dentistry, University of Detroit. Dr. Laskin is professor and associate head of the Department of Oral and Maxillofacial Surgery, College of Dentistry, University of Illinois; chairman of the Department of Oral Surgery, Cook County Hospital, Chicago; and chief attending oral surgeon, University of Illinois Research and Educational Hospitals, Chicago.

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PROFILE OF PAEDODONTICS

CANADIAN ACADEMY OF PAEDODONTICS

At the 1969 national convention, the Board of Governors of the Canadian Dental Association transferred section status in dentistry for children from the Canadian Society of Dentistry for Children to the Canadian Academy of Paedodontics. The Academy is the national organization of the CDA-recognized specialty of paedodontics. Concurrently, the Academy approved a statement, *Profile of Paedodontics*, which sets forth the relationship between paedodontics and the practice of dentistry. This statement, developed by Doctors J. C. Duncan, M.D. Klotz and A. B. Rubinoff, is published at the request of the Academy.

General Statement

It is apparent that there is an increasing demand for a high standard of dentistry in our society. Parents are expecting optimum dental care for their children, especially in the prevention of dental diseases and the utilization of advanced restorative techniques to preserve the dentition in a functional and healthy state. Due to advanced medical knowledge and treatment, increasing numbers of mentally and physically handicapped children are surviving the postnatal period, and they, like normal children, require optimum dental care which cannot usually be supplied without advanced training and knowledge.

The paedodontist, because of his increased knowledge and skills acquired through extensive postgraduate training, can provide optimum dental care for both the normal and handicapped child on a continuing basis.

Definition of a Paedodontist

A paedodontist is a dentist who has qualified, through extensive postgraduate training and limitation of practice, as a specialist in dentistry for children and as such is recognized by the dental profession and the public. Specialty certification, which is conferred on the paedodontist by the appropriate licensing body, indicates that he possesses knowledge and skills in the management and treatment of both normal and handicapped children which are not normally found in the general practice of dentistry. The paedodontist, because of his more extensive education in the basic sciences, interprets the basic sciences to clinical dentistry for children.

Role of the Paedodontist

The paedodontist as a specialist has a major responsibility to the following groups in the community:

Patients

(a) Treatment — to provide optimum treatment for the deciduous and permanent dentition so that the child or adolescent may become an adult with as perfect a dentition as possible.

(b) Prevention — to prevent the development of dental caries in the child by means of fluoride therapy, diet, oral hygiene instruction, and so forth, and to intercept and treat developing malocclusions before they become a major problem for the patient.

(c) Education — to inculcate into the minds of both child and parent the principles of good dental health and to motivate them to desire, seek out, and practise optimum dental care for the rest of their lives.

(d) Management — to control and treat the normal and problem child in the dental office without the extensive use of drugs.

Public

(a) Prevention — to disseminate information to the public regarding recent advances in dentistry for children and to encourage and promote public health programs, such as fluoridation of water supplies, in the prevention of dental disease.

(b) Protection — to refute misleading advertising in the mass communication media concerning the prevention of dental disease, and to promote ethical advertising which will benefit the public at large.

(c) Promotion — to assist programs which will increase dental care for children generally and the extension of facilities for dental care of handicapped children in the community.

Profession

(a) Consultation — to act in an advisory capacity to the dental profession in the dental treatment of difficult cases and to the medical profession when it affects the dental treatment of paediatric patients.

(b) Teaching — to teach undergraduate and postgraduate students the most advanced knowledge and techniques in the dental treatment of the young patient.

(c) Research — to engage in, and promote, research into the management, prevention, and treatment of dental disease in children and to disseminate the knowledge derived therefrom to the profession and public at large.

Scope of Paedodontic Practice

Paedodontic practice encompasses the general field of dentistry. The paedodontist requires specialized knowledge in many areas of dentistry to perform optimum service for children. He must also possess knowledge of many related medical fields to enable him to cope adequately with the clinical problems he encounters. The areas of knowledge routinely used in paedodontic practice can be outlined as follows:

Physical Growth and Development of Children

A thorough understanding of general physical growth and development and a detailed knowledge of the growth and development of the craniofacial region is required of the paedodontist. Such knowledge is essential so that he can recognize the interrelationship of the factors which influence the development of the craniofacial region and enable him to:

(a) Diagnose, guide and supervise dentofacial development;

(b) Predict future development and treatment of the child;

(c) Recognize and treat developing abnormalities before they become a major problem.

Psychological Development

To treat a child successfully, the paedodontist must have an extensive knowledge and understanding of the psycholog-

ical development of children, especially in the following areas:

- (a) Normal psychology;
- (b) Psychological aberrations;
- (c) Psychological developmental levels such as the mental development of children at different age levels;
- (d) The learning process.

Management of Children

Since the paedodontist has to treat many different types of children he must know how to manage and control all patients referred to his office. In most instances he should be able to control these children without the use of premedicating drugs which often delay or hinder the learning process. However, with certain unmanageable children, judicious use of premedication may expedite a particular course of treatment.

The categories of children who can be treated by the paedodontist without regression, but rather progression, in their dental behaviour are:

- (a) The well-behaved child;
- (b) The child with behaviour problems;
- (c) The mentally retarded child;
- (d) The physically handicapped child;
- (e) The emotionally disturbed child.

Diseases of Children

The paedodontist must have a thorough knowledge and understanding of the diseases which affect children, their treatment and sequelae. Such knowledge assists him to perform optimum service in:

- (a) History taking;
- (b) Recognizing oral manifestations of systemic disease;
- (c) Dental treatment of children with systemic disease;
- (d) Anticipating any complications which may follow dental treatment;
- (e) Understanding the beneficial effects of dental treatment on general health;
- (f) Communication with the medical profession for optimum patient care.

Handicapped Children

Since many of the handicapped children in the community will be referred to the paedodontist, he must understand the emotional and physical problems of these children and be able to provide optimum dental care for them. These children can be placed in the following major categories:

- (a) Mentally handicapped;
- (b) Medically handicapped;
- (c) Physically handicapped;
- (d) Children with congenital anomalies.

Hospital Dentistry

The paedodontist will often be required to treat children in the hospital who cannot be treated in the dental office. Consequently, he must be trained to understand:

- (a) Hospital procedures generally;
- (b) Dental hospital procedures;
- (c) Operative procedures under general anaesthesia;
- (d) Resuscitation techniques;
- (e) Interprofessional relationships within the hospital.

Pharmacology

Since the paedodontist uses drugs in his practice and encounters patients who are receiving medication for medical reasons, it is essential that he understand the following aspects of drug therapy:

- (a) Use and abuse;
- (b) Contra-indications;
- (c) Side effects.

Professional Consultations

As a specialist, the paedodontist must be capable of and willing to give advice to physicians and dentists on all aspects of dentistry for children. He should be willing to seek advice or refer a patient to another person if it will result in optimum care for that child.

Education

The paedodontist must strive to promote the advancement of dentistry for children. Consequently he must be aware of the techniques and be willing to devote time to the education of:

- (a) His patients;
- (b) The public;
- (c) The dental profession;
- (d) The medical profession.

Prevention

The main objective of the paedodontist must be the prevention of dental disease in children. Consequently he must be aware of the most advanced methods available in the prevention of:

- (a) Dental caries;
- (b) Periodontic disease;
- (c) Malocclusion;
- (d) Behaviour problems. He will not create a behaviour problem in a previously well-behaved child.

Optimum Care and Treatment

The paedodontist must and will provide optimum dental care for his patients be-

cause of his knowledge, skill, and training in:

- (a) Diagnosis;
- (b) Prognosis;
- (c) Advanced restorative techniques;
- (d) Interception of developing malocclusions;
- (e) Preventive techniques.

Future Role of the Paedodontist

The paedodontist, because of his advanced knowledge in the dental problems of children and his skills in the prevention and treatment of such problems, must and will play an increasing role in the following areas of dentistry for children:

- (a) Extension of dental services for children;
- (b) Hospital services for handicapped children;
- (c) Specialist services for those requiring it;
- (d) Consultative services for the dental and medical professions;
- (e) University teaching programs at the undergraduate and postgraduate levels;
- (f) Conduct of clinical research in the solving of paedodontic problems.

The long-run consequences of some economic policies may become evident in a few months. Others may not become evident for several years. Still others may not become evident for decades. But in every case those long-run consequences are contained in the policy as surely as the hen was in the egg, the flower in the seed. From this aspect, therefore, the whole of economics can be reduced to a single lesson, and that lesson can be reduced to a single sentence: the art of economics consists in looking not merely at the immediate but at the longer effects of any act or policy; it consists in tracing the consequences of that policy not merely for one group but for all groups. — Henry Hazlitt, *The Freeman* (September 1969).

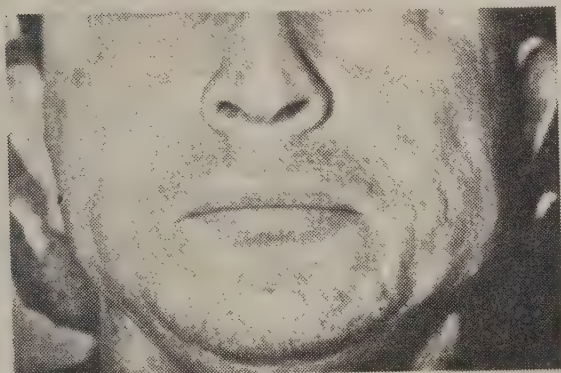
Facial Pain and Mandibular Dysfunction

Laszlo Schwartz and C. M. Chayes. Toronto, W. B. Saunders, 1968. 365 p. Illus. \$17.85

This volume, as the foreword states, "is intended to assay the role of dental and other factors, particularly mandibular dysfunction, in the aetiology of facial pain." Designed as a vade-mecum for the general practitioner of dentistry, it offers a widely accepted rationale and methodology for treatment. Although drawing on the expertise of recog-

nized authorities in a number of relevant disciplines, the book lacks the comprehensiveness of treatises on pain by Bonica¹ and Wolff² and the more penetrating and innovative approaches in a recent volume, *Facial Pain*, edited by Alling.³ Like all publications with multiple contributors (19 plus the senior authors) the end result becomes a veritable smorgasbord.

The book is divided into three parts. Part 1 deals with facial pain, Part 2 with mandibular dysfunction and Part 3 with methods. Chapters by the principal authors are interspersed among those by other contributors. Much of the material from Dr. Schwartz's

[illegible]

border and the four fingers on the posterior border of the capite, the state and state of the muscle may be determined. Sometimes it is helpful to reverse the position of the examining hand placing the thumb on the posterior border and the four fingers on the anterior border. No matter what hand position is used, however, the presence or absence of painful muscle areas is determined by palpating with the breading of the free hand.

Fig. 12-8. The round end of a wooden pen may also be used.

The deep layers of the superficial portion of the masseter muscle are prepared internally. A forcefinger is placed in the mouth between the cheek and the lower teeth. When the patient clenches, the anterior border can be located. Probing for painful areas proceeds internally in the same manner as a Manual Examination. Swenson (1918) palpates the masseter between the thumb and forefinger. On the right side the forefinger is placed inside the mouth with the left side the thumb.

In examining muscles both sides at sometimes examined simultaneously. After patient at a time been held equal pressure exerted on each side so as to compare the symptoms the side with the asymptomatic one.

Internal Pterygoid Muscles

After the manometers have been examined the internal pressure gauges are located. To accomplish this, one hand is placed on the manometer

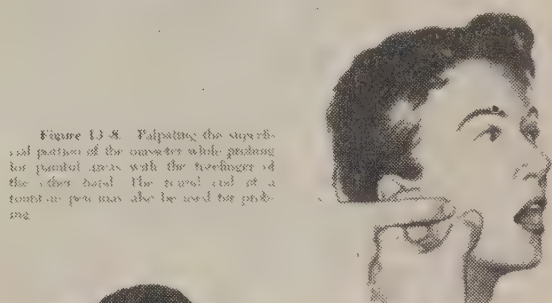


Figure 13-8. Palpating the superficial portion of the overwater while pushing for painful areas with the forefinger of the other hand. The thumb and at a fourth or fifth may also be used for probing.



Figure 2: A plot of the function $f(x) = \frac{1}{x}$ for $x \in [1, 2]$. The function is shown as a solid line, and the area under the curve is shaded. The x-axis is labeled x and the y-axis is labeled $f(x)$. The plot shows that the function is decreasing and convex on the interval $[1, 2]$.



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pen has appeared previously in dental journals and in his book, *Disorders of the Temporomandibular Joint*.

Wolff's chapter on pain perception and reaction is the standard textbook presentation and makes no mention of the new and highly relevant work by the Weddell group at Oxford, the Wall group at the Massachusetts Institute of Technology and King et al at the State University of New York. The papers by Bonica and Sweet in the volume edited by Alling are more in tune with the times. Kawamura's chapter on mandibular movement seems less relevant than his contribution to Alling's book which deals specifically with facial pain. Schwartz's chapter on the pain dysfunction syndrome, though familiar to readers of his textbook, gives an excellent account of how therapy advances when clinicians, unwedded to a popular yet poorly substantiated concept, rely on disciplined observation in deciding the course of treatment. It was during the era of bite opening, when Costen's Syndrome was all the rage, that Schwartz recognized that other factors besides impingement on the auriculo-temporal nerve could account for facial pain and mandibular dysfunction. The object lesson in Chapter 12 is thus a very important one.

Krogh-Poulsen and Anders Olsson furnish an excellent summary of the effect of form and function on the occlusion. Krogh-Poulsen's remarks about examination, diagnosis and treatment somewhat overlap the earlier chapter on clinical examination by Schwartz and Chayes. Many clinicians will reject his balanced occlusion rationale for occlusal correction; others will be interested in the pivoting splint he uses in cases with "clicking articular pain and grossly uneven mandibular movements" due to "displacement of the articular disc and other intra-articulation discrepancies." The chapters on physical therapy, pharmacological methods and the identification and treatment of emotional factors in non-organic temporomandibular joint pain accentuate the book's usefulness for the clinician.

There are some obvious omissions. Trigeminal neuralgia receives very cursory attention. Little information is given about vascular origins of facial pain. An index is most important in a book where there is bound to be some overlapping by the numerous contributors. A more extensive index would be desirable. Physical therapy, though dealt with in two chapters, is omitted from the index.

Chayes explains in the preface that this book was largely completed after the death of Dr. Schwartz. Though conceived, planned and begun by Dr. Schwartz, the responsibility for bringing it to fruition fell on Dr. Chayes' shoulders. Under these circumstances the co-author feels an obligation to complete the task as his colleague would have desired. This volume certainly stands on its own as a worthy addition to the dental literature. In an unobtrusive way it also serves as a tangible memorial to a man who

contributed significantly to the practice of dentistry.

A. T. Storey

1. Bonica, J. J. The management of pain, with special emphasis on the use of analgesic block in diagnosis, prognosis and therapy. Philadelphia, Lea & Febiger, 1953.
2. Wolff, H. G. Headache and other pain. New York, Oxford University Press, 1948.
3. Alling, C. C., ed. Facial pain. Philadelphia, Lea & Febiger, 1968.

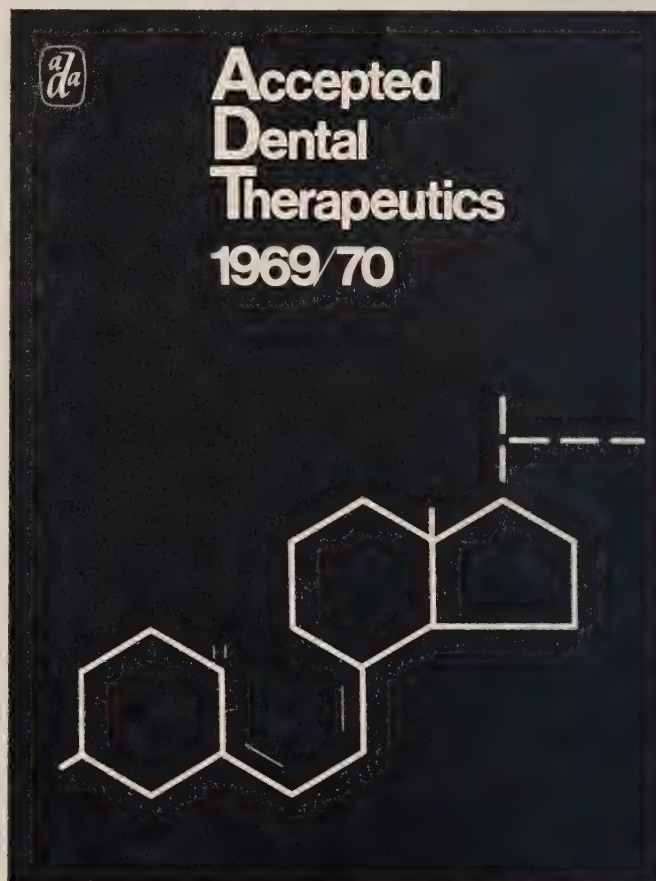
Accepted Dental Therapeutics 1969-1970

American Dental Association, Council on Dental Therapeutics. Ed. 33. Chicago, American Dental Association, 1968. 317 p. \$3.50

Accepted Dental Therapeutics 1969-1970 was formerly known as *Accepted Dental Remedies*. It is now published every other year in hard cover instead of the yearly soft cover edition. Supplements will be provided if interim revisions are necessary.

This is a complete reference book which should be in every practitioner's office. It reveals the established indications for drugs, the manner in which they should be employed, and possible side reactions which may be caused by drugs and interactions between drugs.

The chapter on the role of drugs in the management of clinical problems has been



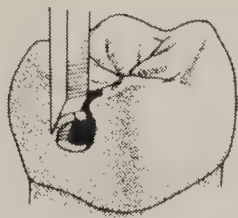
Steps in the preparation of a Class II cavity
(Involving the marginal ridge)
e.g. in Mandibular molar

In all cases it is advisable to take radiographs before commencing the restoration of such a tooth, in order that the risk of possible pulp exposure may be assessed

- 1 Commence by removing gross caries with excavators



- 2 Break down unsupported enamel with hand instruments



- 3 When unsupported enamel has been removed, check the cavity again for carious dentine. When it is clear of caries, cut out the fissures and establish the occlusal form as before.



- 4 Prepare gingival floor and bring buccal and lingual walls to self-cleansing margins. Check again for remaining carious dentine and remove it if present.



- 5 Teeth with a carious lesion of this extent cannot be prepared in the classical manner, it may be impossible to form a step in dentine and in this case one must be formed in cement.



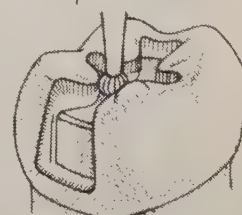
- 6 Obtain retention for the occlusal lock as before. Additional retention for the proximal box can be obtained by grooving the buccal and lingual line-angles with a No. 1/2 round bur.



- 7 With the gingival margin trimmer plane the gingival enamel smooth, bevel the axio-pulpal line-angle and round off the lingual and buccal corners of the gingival floor of the proximal box.



- 8 Finish off all enamel margins with finishing burs and enamel chisels.



A page from Chapman's "Manual of Operative Techniques."

expanded, and the very useful evaluation of new drugs, with indications why others are regarded as obsolete, has been continued.

Clifford Reynolds

Manual of Dental Operative Techniques

C. E. Chapman, Edinburgh and London, E. & S. Livingstone Ltd., 1969. (Available from the MacMillan Company of Canada Limited, Toronto) 159 p. Illus. \$3.95

This small British publication is obviously the product of many years of painstaking effort on the part of the author and his contributors. As the title suggests, it is a "how to do it" book consisting of brief, concise step-by-step outlines of basic restorative techniques as taught in the School of Dental Surgery at the University of Edinburgh. The text is handsomely supplemented by numerous simple line drawings which lend a most interesting 'animated' effect to the descriptive material.

An unusually wide spectrum of pertinent subject matter is covered, ranging from simple Class I and II silver amalgam restorative techniques to the more complex 'fixed bridge' procedures. A short but comprehensive section on endodontic treatment is also included. In all, the various sections are models of clarity and succinctness.

The problem with commercial publication of technique manuals in general apparently lies in the fact that teaching philosophies regarding clinical restorative procedures are understandably subject to a wide range of regional (or institutional) variability. Nearly every dental school develops its own set of manuals and syllabi, and these inevitably are based on local needs, local equipment and the particular teaching technique of the instructor responsible for the course. It is little wonder, therefore, that such instructors are reluctant to adopt 'extramural' manuals, notwithstanding their merit. Nonetheless, I recommend this manual to dental students as a quick handy reference source and I extend sincere congratulations to the author for a significant and most worth-while contribution to the dental literature.

R. E. Jordan

cda retirement savings plan

régime d'épargne-retraite adc

Quarterly Report

31-8-69

Rapport trimestriel

	Unit value Valeur unitaire	Unit value Valeur unitaire	Unit value Valeur unitaire	
	31-8-69	31-8-68	31-8-64	
Government Bond Fund	\$13.851	\$13.809	\$13.003	Fonds d'obligations gouvernementales
Corporate Bond Fund	14.892	14.913	13.777	Fonds d'obligations corporatives
Common Stock Fund	24.427	24.786	18.591	Fonds d'actions ordinaires

Section 79B of the Income Tax Act permits tax free contributions of up to 20 per cent of earned income or \$2,500, whichever is less, to a personal retirement savings program.

The Royal Trust Company, trustee of the CDA retirement savings plan offers three separate investment media: a Government Bond Fund, a Corporate Bond Fund and a Common Stock Fund. Contributions may be allocated wholly or partly to fund or funds of the contributor's choice. Transfers between funds are allowed without penalty.

The Government Bond Fund, confined to guaranteed government bonds and other guaranteed fixed income securities, offers excellent income with high security. The Corporate Bond Fund, confined to bonds, debentures, preferred shares and other fixed income securities, offers maximum income. The Common Stock Fund, comprising Canadian and carefully selected American and other foreign stocks, has capital growth as its main objective.

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La Compagnie Trust Royal, qui gère le régime d'épargne-retraite de l'ADC, offre trois sortes de placements distincts: un fonds d'obligations gouvernementales, un fonds d'obligations corporatives et un fonds d'actions ordinaires. Les contributions peuvent être faites entièrement ou en partie au(x) fonds que choisit le contributeur. Il peut faire des transferts entre les fonds sans payer d'amendes.

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L'adhésion au programme ou le retrait n'entraîne aucun paiement supplémentaire, ni commission.

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Independence of a dental journal

"It ought to be the happiness and glory of a representative to live in the strictest union, the closest correspondence, and the most unreserved communication with his constituents. Their wishes ought to have great weight with him; their opinion high respect; their business unremitted attention. . . . But his unbiased opinion, his mature judgement, his enlightened conscience, he ought not to sacrifice to you, to any man, or to any set of men living. These he does not derive from your pleasure; no, nor from the law and the constitution. They are a trust from providence, for the abuse of which he is deeply answerable. Your representative owes you not his industry only, but his judgement, and he betrays instead of serving you, if he sacrifices it to your opinion. . . .

"Parliament is not a congress of ambassadors from different and hostile interests; which interests each must maintain as an agent and advocate, against other agents and advocates; but parliament is a deliberative assembly of one nation, with one interest, that of the whole; where not local purposes, not local prejudices ought to guide, but the general good, resulting from the general reason of the whole. You choose a member indeed; but when you have chosen him, he is not a member of Bristol, but he is a member of Parliament."

— Edmund Burke, 1754

Clear heads and an objective approach are necessary when an association is considering alteration of the methods whereby it is governed. Burke's remarks about the constituent and his representative are therefore particularly relevant as dentists consider such alterations, through their study of the CDA's constitution and by-laws. The bite and urgency of his famous words carry over to our present situation where the need for unity within the profession is greater than ever before and the temptation to sectionalism is constant.

On reflection, it is also apparent that a healthy independent journal — and its concomitant: the recognition by every member that the journal will have such independence — is essential to our slow ascent toward "the general reason of the whole." Journalistic independence cannot be taken for granted, however; it must be renewed continuously — especially at a time when the freedom of our journal is threatened by a suggestion that "no organization should publish or espouse any cause which is in opposition to the wishes or stated policies of the organization having a prior responsibility or legal jurisdiction in this specific area."¹ This proposition is appealingly simple; yet it can become the thin, almost imperceptible wedge that widens over the years into a veto on what the readers shall or shall not read.

The distinction between 'church' and 'state' must always be well marked when a dental association publishes a journal. Because the journal must retain its right to be critical, its identification with any Establishment must never

grow too close. It is in this context that Burke's warning is most pertinent: though his proprietors' wishes have great weight with him, no editor can sacrifice the dictates of his mature judgement, the call of his enlightened conscience. He must therefore remain independent and free.

Complete freedom is, of course, an illusion in any walk of life; and the editor who wants to reveal and criticize, to stimulate and shock, can do so only within limits set by the proprietors. Though he cannot refrain from exposing reasoned observations that may depart from established policy, he will not knowingly use his publication for indiscriminate assaults upon Authority. He fights down any temptation to dabble in policy-making in the same spirit as he ejects anyone who, however well intentioned, attempts to climb into the editorial chair. Moreover, the wise editor does not permit his journal to become a weapon which a faction may capture and use to impose its view on others. To everyone's credit, attempts to use it as such are rare.

Basic to the question of editorial freedom are the obligations and privileges that accrue to a responsible editor. His employers will naturally exercise the greatest care in selecting a journalistic helmsman. They will rightly expect that the editor's philosophy be in general accord with their purpose in publishing a journal. But having made their choice, they must allow him, "within the restraints of ethical and professional responsibility, to guide the development of the periodical's procedures and policies, to publish his convictions and to attain the journalistic leadership his abilities and opportunities warrant."²

Implicit in all this is a partnership rooted in loyalty and founded on mutually satisfactory working relations between an editor and his employers. It is a trust that should not be circumscribed by directives as to what may or may not be published.

Inevitably, this raises the question of "who edits the editors?" The disquieting answer could be 'nobody,' or 'their conscience.' But, happily, a dental editor who is tempted to use his influence irresponsibly is handicapped by intelligent readers who can readily detect such a flaw and bring him to task. Moreover, in the long run the best safeguard for our profession is that the journalist will come to the conclusion that the people to whom he is ultimately responsible are the public; and dental periodicals are perhaps never more useful to the profession than when they bring to its affairs a detachment gained from this larger loyalty.

1. Singer, R. M. Unity: a course of action. J. Canad. Dent. Ass. 35:503, 1969.

2. American Association of Dental Editors. A manual for dental editors. Ed. 2, 1953.

Une occasion à ne pas manquer

Il existe 33 pays sur quatre continents dans lesquels 75,000,000 de personnes sur une population totale de 235,000,000 parlent le français. Ces pays forment ce que l'on appelle maintenant la francophonie.

La francophonie est le résultat logique d'un développement qui a son origine dans la libération des anciennes colonies françaises d'Afrique de 1958 à 1962. Il est naturel que les pays d'expression française, autres que la France, ont ressenti le besoin de se grouper et d'élaborer des moyens d'échange et de coopération. M. Gérard Pelletier, Secrétaire d'Etat au gouvernement fédéral a déjà remarqué qu'après trois siècles de vie en Amérique du Nord, les Canadiens français éprouvent un besoin de solidarité avec les autres pays francophones.

C'est donc à Niamey, capitale du Niger, que 22 pays se réunissaient en février dernier et convenaient de créer une agence qui encouragerait la coopération culturelle et technique. Le Canada défrayera 30 p.c. du budget immédiat de la nouvelle agence.

L'idée n'est pas tout à fait neuve puisqu'en 1920 un groupe de médecins du Québec participait déjà à la formation de l'Association internationale des médecins de langue française. De même, en 1965, la profession légale collaborait à l'établissement de l'Institut de Droit des pays d'expression française (IDEF).

Il y aurait des avantages réciproques à créer un rapprochement des dentistes francophones. Les dentistes canadiens vivent au seuil du plus grand centre de recherche et de perfectionnement des traitements dentaires: les États-Unis. Il nous serait donc possible de transmettre ces nouvelles techniques aux autres pays. Cette entraide aura également l'avantage de permettre à nos chercheurs et à nos professeurs d'avoir un public beaucoup plus élargi. Leurs travaux, leurs articles et leurs manuels trouveront donc une diffusion beaucoup plus grande.

Voici alors un tout nouvel horizon. Les rapports que l'Association dentaire canadienne maintient avec la Fédération dentaire internationale aideront sûrement les intéressés à larguer les amarres.

letters • courrier

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

■
Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association dentaire canadienne. Vous êtes invités à participer à cette section du Journal.

Intellectual Development in Dental Education

To the Editor:

As a former student of Dr. Young's, I found his article in the September issue very interesting. Having been exposed to the type of teaching methods employed by Dr. Young, I feel qualified to comment on his methods and his ideas about dental education.

I found the pathology course at the University of Manitoba very stimulating and very refreshing. It seemed like learning without working, and each minute in the course was very enjoyable as well as very profitable from a learning standpoint.

Dr. Young tries to show students how to think for themselves and how to solve problems by thinking logically and not looking for the answers in prescribed text books. Some students had great difficulty in this type of course, since they were not accustomed to thinking for themselves.

But, all-in-all, Dr. Young has written a very good article which tries to explain various problems in dental education.

Greg. Kozoriz, DMD,
263 Broadway Ave.,
Winnipeg 1, Man.

Mistreatment of Laboratory Animals

To the Editor:

Though retired I still look forward to our Journal coming each month. I agree with Dr. E. M. Box in his support of Dr. J. D. Purves regarding the research report of Doctors Attalla and Calvert in the February Journal. This is research?

Continued success with the Journal.

G. S. Paul, DDS,
59 Rathburn Rd., Islington, Ont.

Basal Cell Naevus Syndrome

To the Editor:

Doctors Drenfeld, Sabin and Laskin have described an interesting case of a rather uncommon syndrome which is, nevertheless, important to dentists. As more examples are being reported, it is apparent that the basal cell naevus syndrome is not as rare as was originally thought. Recently, cysts from the jaw of a patient known to have this syndrome were sent through our biopsy service and I have since corresponded with Dr. R. Jackson of Ottawa who, with Dr. Sandra Gardere, has studied 17 cases including the one from which we examined the cysts.

The basal cell naevus syndrome should be considered in any patient having numerous cysts of the jaw. These cysts, which first occur in young people, are typically lined by keratinizing epithelium and are consequently called odontogenic keratocysts. Similar cysts of the jaws occur without being related to the syndrome and tend to recur as do the cysts related to the basal cell naevus syndrome.

The associated numerous basal cell carcinomata cannot be distinguished microscopically from other such lesions, although there are certain clues such as a pattern of superficial multicentricity. Characteristically, they first occur in young people, that is on skin which has not been exposed to decades of actinic radiation. Moreover, many of the basal cell carcinomata occur on skin normally covered by clothing.

A familial history of similar lesions is important but not absolutely essential to the diagnosis.

As Drenfeld et al point out, there are a large number of anomalies which can occur as part of the syndrome but which are not constantly found. Among these, abnormalities of the thoracic cage have been stressed. One of the most important possible associated findings is medulloblastoma, a generally

fatal tumour in childhood. Such children would, however, probably die before the full syndrome developed.

The article by Drenfeld et al is a useful one in that it emphasizes the importance of both the dentist and the pathologist being aware of the significance of the finding of numerous keratinizing cysts of the jaws. The basal cell naevus syndrome is yet another condition where the alert dentist can aid in the diagnosis of a systemic disease.

D. G. Gardner, DDS, MSD,
Associate Professor,
Department of Pathology,
The University of Western Ontario,
London, Ont.

Treatment of Oligodontia

To the Editor:

The case report by F. E. Short on "Treatment of Oligodontia" adds little to the literature on this condition. To be acceptable, a case report should be a comprehensive evaluation of some clinical condition — in this instance oligodontia. The review of literature is far from exhaustive and vaguely related to the subject at hand. Beyron never mentioned oligodontia, Ballard and Wylie did not discuss vertical height in the articles quoted.

The negative report of the patient's medical history gave no hint of the possible cause of such a condition. Was it present in parents, grandparents, or siblings? Was it a possible result of radiation during the formative stages of these teeth? Were all the deciduous teeth present? Was there resorption of the roots of the deciduous teeth that had no successors? What was the dental caries situation and the periodontic condition?

The writer calls for an early diagnosis of this condition. He mentions the possibility of making an adequate radiographic survey at age five, yet treats the patient in the article at age 15. Had he diagnosed this situation at age five, what more could he have done to intercept any future malocclusion or keep restorative treatment to a minimum?

This is a report of treatment for missing teeth—whether by accident, caries or oligodontia—and as such should not be reported without a follow-up in two, five or ten years to show whether such treatment really fulfilled the treatment objectives.

R. L. Scott, Dip Paed, FRCD(C),
Clinical Lecturer,
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reports of councils, committees, sections and bureaux

ARE THERE ALTERNATIVES TO COMMUNITY FLUORIDATION?

COUNCIL ON RESEARCH

BUREAU OF PUBLIC INFORMATION

This question is frequently asked both by well-meaning persons who oppose controlled fluoridation of community water supplies because they believe there is a cheaper and equally effective method of obtaining the benefits of fluoride, and by others who are anxious to gain whatever benefit they may but who do not have access to a fluoridated water supply. This brief statement has been prepared in answer to inquiries from the general public. More detailed information may be found in an article on 'Fluorides in Dental Practice' by J. M. Conchie and published in the May 1969 issue of the Journal.

There are indeed many alternatives to community water fluoridation. Some are inexpensive but, it must be emphasized, none is as effective in reducing dental decay. To be maximally effective, the fluoride must be provided daily in the water or in supplements during the 15 or more years of tooth formation. This allows the teeth to form a better, harder enamel that resists decay. These benefits persist throughout life and there may be added benefits if fluoride is also available to the adult.

Theoretically, the best substitute for community water fluoridation is fluoride added to all drinking water in the home. This can be done with a home fluoridator. Such machines have been designed and may be available on a very limited basis, usually at a relatively high cost. A home fluoridator requires repeated servicing or recharging, like a water softener. Another method is to add an exact amount of concentrated fluoride solution to drinking water in the home. This can be effective if carried out faithfully, but many people find it difficult to remember to prepare the fluoridated water every day. More important, it is difficult to ensure that this is the only water drunk by the children.

Fluoride may also be supplied in tablets or drops to be taken every day. These methods help to reduce tooth decay but are not as effective as use of water from community fluoridated supplies. A serious problem with this method is the importance of remembering to give the pills to the children every day. Clinical trials suggest that many people stop using these preparations after one, two or three months. Fluoride supplements are also available in 'vitamin drops' used in the care of babies. Recently, fluoride supplements have also been made available in chewable pill form, making them more acceptable to children. While the daily use of supplements of these types presents many problems, this is probably the most effective method of obtaining fluoride in areas that do not have central water supplies or in which the central water supply has not yet been fluoride-adjusted. In areas where the water supplies have been fluoridated or where sufficient fluoride is naturally present, the use of extra supplements is not necessary and is not recommended.

We are often asked about the benefits of fluoridated tooth pastes. Are they a replacement for water fluoridation? Do they give an extra benefit even in areas with fluoridated water supplies? Before answering these questions, we must emphasize that frequent (preferably after

every meal) brushing of the teeth with almost any tooth paste, or even with plain water, helps to reduce tooth decay. It is important to keep the teeth clean to prevent decay. A fluoridated water supply does not stop all dental decay; it makes the teeth more resistant to decay. Brushing the teeth carefully gives an added benefit to that obtained from fluoridated water supplies. There are a number of tooth pastes on the market containing fluoride (and some without) that seem to be a little more effective than others. It is thought that they may act by making the surface of the tooth a little more resistant to decay. Their effects seem to be present whether there is fluoridation of the water supply or not, although they may have a greater effect in teeth that have not had the benefit of fluoride during the period of tooth formation. Tooth pastes, whether or not they contain fluoride, are not a substitute for fluoride intake. They act in a very different way. The reduction in dental decay is not as great with tooth pastes alone as with water fluoridation; the benefits of the tooth paste and water fluoridation may be added together.

Another method of reducing tooth decay is to take children to the dentist to have a concentrated solution of fluoride applied to all surfaces of their teeth. This topical application should be repeated at least once a year since the protective barrier it provides wears off in time. Although this treatment is relatively expensive it is particularly recommended for children who cannot obtain fluoridated drinking water.

Again we emphasize that while there are several alternatives to the fluoridation of community water supplies, no alternative so far tested has been nearly as effective in reducing dental decay. We also emphasize that water fluoridation is not the total answer; sound nutrition, including avoidance of excessive use of sweets, and daily care of the mouth and teeth are also most important in the maintenance of oral health.

dentistry in the news

The Association

National Unity Held Essential by President MacLean

National unity is absolutely essential for the dental profession, CDA President H. R. MacLean told dentists attending two recent conventions in eastern Canada. The dental profession is a tiny segment of the total population and cannot afford to turn its small voice into a chorus of conflicting opinions and programs that would fall unheard on the ears of the public, he said.

Dr. MacLean was addressing delegates to the Atlantic Provinces Convention, Charlottetown, September 14-17, and the Newfoundland Dental Association Convention at St. John's, September 18-20.

Only a national organization, he said, can synthesize the opinions of its members so that dentists speak with one voice in such matters as federal legislation, education and international dentistry. Only a national organization can speak effectively with the national government, with other health professions at the national level and international organizations. Only a national organization can develop the educational and professional standards which reflect the thrust of an entire profession and not that of local, isolated groups. Only a national organization can communicate with all its members so that they may share knowledge and information for making decisions.

A national organization, said Dr. MacLean, can give support which local organizations cannot provide from their own resources. As an example, he cited recent representations by the CDA which result-

ed in removal of the federal sales tax from dental impression materials. This action alone, said President MacLean, means a yearly saving of \$60,000 to the profession or \$9 per individual dentist — nearly a third of the annual per capita grant to the CDA which is being advocated by some dentists.

Dr. MacLean told his listeners that the profession must squarely face the problems related to auxiliary personnel. "Are there valid reasons why we do not observe and learn from our sister profession, medicine, by placing the responsibility of delegating the duties of auxiliaries directly upon the individual practitioner?" he asked.

We have excellent dental schools; we have good relations with other health professions; and we have competent dentists, he said, adding: "We need an outstandingly strong national body."

Explore Venture Investment Fund for Dentists

R. M. Singer, Toronto, chairman of the Ontario Dental Association's Investment Committee, has been invited to join the CDA Insurance Committee in exploring the possibility of establishing a venture investment fund for the dental profession. The decision was reached at an Insurance Committee meeting held at CDA Headquarters September 29-30.

In other actions, the committee decided to ask the Executive Council to appoint two members of the Insurance Committee as CDA representatives on the Board of Directors of Canadian Dental Service Plans Inc. The appointment would be for a three year term. CDSPI is the agency



During a recent meeting of the Insurance Committee at CDA Headquarters, participants discussed the retirement savings plan, contractual arrangements with insurance companies and Canadian Dental Service Plans Inc., and the development of an advisory service for CDA members. The group was chaired by D. C. Way, London. Pictured are: CDA Comptroller D. M. McDonald; CDSPI Administrator E. Jackson; R. A. Hugill, Toronto; D. C. Steeves, Moncton; Mrs. J. Jermyn, CDA administrative assistant; O. F. Wright, Vancouver; D. C. Way; and CDA Secretary W. G. McIntosh.

which now administers CDA-sponsored group insurance policies and the dental profession's retirement savings plan.

The Insurance Committee also authorized CDSPI to retain 5 per cent of collected premiums for its administration of the insurance policies. This authorization is subject to ratification by the insurance carriers.

Dental Students Hold First National Conference

Student representatives from the various Canadian dental schools met at CDA Headquarters November 19-22 for the first national Canadian Dental Students Conference.

The conference was sponsored by the CDA Council on Education and funded by the Canadian Fund for Dental Education.

Conference topics included: dental political organizations, the CDA student membership program, finances for dental students, faculty-student liaison, student participation in basic and clinical sciences and student table clinics at conventions.

The visiting students also toured CDA Headquarters and the Faculty of Dentistry at the University of Toronto.

Chairman of the student conference was D. J. Kenny, a fourth year student at the University of Western Ontario.

Canada and the Provinces

Human Resources Conference Said a Canadian First

Dean W. J. Dunn of the University of Western Ontario represented the Canadian Dental Association at a National Health Manpower Conference in Ottawa October 7-8. The Federal Department of Health and Welfare was one of the sponsors of the event. Also invited were representatives of various health professions, universities and provincial health groups.

Attending the four-day meeting were approximately 200 representatives of the various health fields as well as delegates from interested consumer groups. Bodies that were invited to send delegates included the Canadian Dental Association, Canadian Medical Association and Canadian Nurses Association. Invitations were also extended to such consumer groups as the Canadian Labour Congress, the Consumers Association of Canada, the Canadian Chamber of Commerce, the Canadian Welfare Council, the Health League of Canada, the Canadian Federation of Mayors and Municipalities and the Canadian Federation of Agriculture.

The aim of the meeting was to elicit suggestions for the improvement of human resources in the health and health-related professions. Principal topics in-

Gordon Rowell (right), Director of Dental Services for the Royal Australian Dental Corps, was a recent visitor at CDA Headquarters. Talking with Dr. Rowell were (l. to r.): J. E. Speck, secretary-treasurer of the Royal College of Dentists of Canada; Dean R. G. Ellis of the University of Toronto's Faculty of Dentistry; and CDA Secretary W. G. McIntosh.



cluded the delivery of total health services during the next decade, determining the quality and quantity of health manpower required to perform this task, and the education of these people.

Dr. Frederick, Former Montreal Dental Club President, Killed in Shooting Accident

F. O. Frederick, 53, a prominent Montreal dentist, was accidentally shot and killed by his 14 year old son during a hunting trip September 27. The tragedy occurred in the woods near Marieville, south east of Montreal.

Dr. Frederick, a former president of the Montreal Dental Club, practised in the Medical Arts Building at Guy and Sherbrooke Streets.

Oppose Imposition of Sales Tax on Artificial Sweeteners

Abbott Laboratories Limited will appeal before the Exchequer Court a recent government decision to impose the 12 per cent federal sales tax on artificial sweeteners.

The company contends that its own Sucaryl, prescribed by physicians and dentists in the treatment or prevention of

obesity, diabetes and dental caries, falls under the classification of health products as defined in the Federal Excise Tax Act and should be tax free. The national revenue department claims artificial sweeteners are neither nutrients nor drugs but simply chemical substances, and are therefore subject to the sales tax.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on September 30:

Government Bond Fund \$13.639;
Corporate Bond Fund \$14.962;
Common Stock Fund \$24.389.

Total assets (market value) of the plan were \$9,263,382.81.

The following common stock portfolio purchases and sales occurred during the preceding month: bought 15,000 shares Zellers Ltd. and 3,000 shares Union Gas Co. Ltd.; sold 700 shares Dillingham Corporation.

For further information please write to CDA - sponsored Pension and Insurance Plans, 230 St. George St., Toronto 180, Ont.



Officers of the recently reorganized College of Dental Surgeons of British Columbia are (left to right): R. A. Mitchell, treasurer; L. W. Beamish, vice-president; G. F. Copithorne, president; M. J. T. Dohan, vice-president; and K. L. Croft, managing director.

Dental Organizations

Newly 'Merged' BC College Holds First Meeting

Dentistry in British Columbia has taken another step forward by the merger of the formerly separate BC Dental Association and College of Dental Surgeons of BC. First meeting of the new college council was held at Vancouver, September 15-16.

The eight component local dental societies in the province elect representatives to the council. With five elected at large plus four elected officers, 20 dentists make up the council.

The council is a policy-making body which meets two or three times a year.

Its members are divided into three groups to handle professional affairs, public affairs and business affairs (Executive Committee). Divisions of the first two groups meet quarterly; the Executive Committee meets monthly.

Chief purpose of the merger is to provide a single voice for dentistry in the province and to streamline administration of dental activities at provincial and local levels.

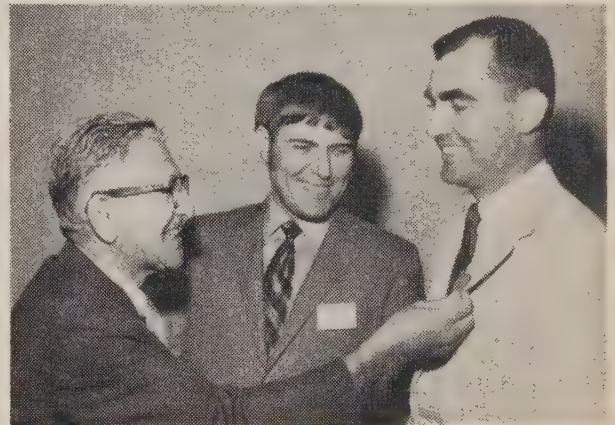
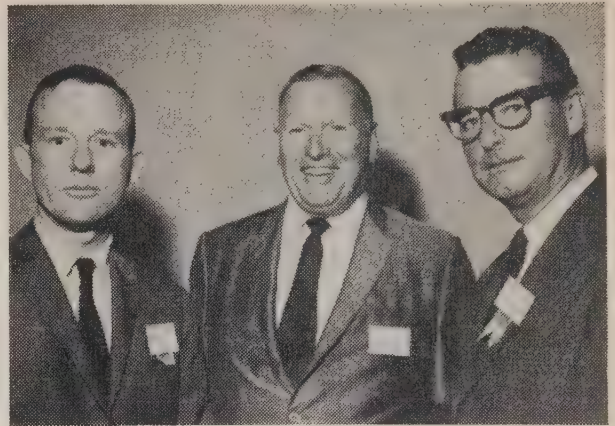
ODA Holds First Public Relations Conference

Dental public relations within the profession and in the public media were the chief topics at the Ontario Dental Association's Public Relations Conference held



The council of the reorganized College of Dental Surgeons of British Columbia held its first meeting in Vancouver, September 15-16. Pictured are (left to right): R. K. Lindsay, R. A. Mitchell, D. E. Waller, J. L. Loughlin, L. W. Beamish, G. F. Copithorne (president), M. J. T. Dohan, E. A. Lustig, D. G. Marshall and G. A. Frezze. Standing (left to right) are: D. J. Yeo (registrar), R. B. Telford, D. E. A. Black, V. M. Erickson, J. S. Craib, W. D. McDougall, T. W. James, R. J. Warshawski, J. L. Hornibrook and F. A. Fergie.

The latest advances in dentistry and education were two of the topics presented at the Northern Ontario Dental Association convention in North Bay September 5-7. Top photo: D. G. Gardner, London, left, addressed the association on oral pathology; G. R. Allan, Sudbury, centre, spoke on education, and silver amalgam restorations were discussed by R. E. Jordan, London, right. During the convention there were several social sessions for the delegates to get acquainted (middle photo). Pictured, from left, are: H. M. Jolley, Toronto, president of the Royal College of Dental Surgeons of Ontario; Ivan Hrabowsky, St. Catharines, president-elect of the Ontario Dental Association; and K. A. O'Grady, North Bay, secretary-treasurer of the Northern Ontario Dental Association. Pinewood Park (lower photo) was the setting for the president's banquet and concluding dance. Max Back, president of the North Bay branch, the host group, supervised arrangements for this social event. Some of the many delegates attending with their wives who were greeted by Dr. and Mrs. Back, left, included Dr. and Mrs. H. N. Beach from Ottawa, Dr. and Mrs. R. G. Ellis of Toronto, and Dr. H. R. Maclean from Edmonton, CDA president.



at Orillia, September 19-21. More than 60 participants were registered at the meeting.

Gordon Melnyk, ODA public relations officer, opened the working sessions with a discussion on "Backyard Public Relations."

Peter Maitland and Forbes LeClair, both public relations officers for Ontario Hydro, explained the principles and practice of public relations — what it means to dentistry as a professional body and to individual practitioners. Mr. LeClair went on to discuss the selection of media.

Wallace Court, public relations officer for Gulf Oil, told his audience what the news media require. Mr. Court also con-

ducted a workshop session on newsletter layout and internal public relations.

Dr. Prokop Elected at Northern Ontario Convention

L. D. Prokop, Sault Ste. Marie, was installed as president of the Northern Ontario Dental Association during NODA's three day convention in North Bay September 5-7. He succeeds Max Back of North Bay.

H. T. P. Donnelly of Sudbury was elected vice-president and G. A. Shunock, Sault Ste. Marie, was named secretary-treasurer.

New Executive for Island Association

Recently elected officers of the Dental Association of Prince Edward Island are: O. E. Dalton, president, and A. L. MacLean, vice-president. Both are from Summerside.

G. D. Barrett, Charlottetown, continues as registrar-secretary-treasurer.

Named as council members are K. A. MacEachern and J. P. MacIntyre, both of Charlottetown.

Dr. Chayka Heads Saskatoon Dentists

R. Chayka was recently elected president of the Saskatoon and District Dental Society. He succeeds S. O. Sawa. Other officers are W. T. Waite, vice-president, and P. D. Henderson, secretary-treasurer.

London Dentists Elect Dr. Whitman

C. S. Whitman is the new president of the London and District Dental Society, succeeding L. V. Taylor. Other officers elected for 1969-1970 are F. V. Currie, president-elect; A. W. E. Cluett, secretary; and W. A. Dinniwell, treasurer.

International Items

FDI Meets in Rumania Next Year

Headquarters for international dentistry will be in Bucharest when the Fédération Dentaire Internationale holds its 1970 annual meeting — the 58th — in Rumania. The meeting is scheduled for September 26 to October 1.

The four-day scientific program will have as its main themes: plaque in relation to dental caries and periodontic disease; surgical aids to orthodontics; and organization of dental practice. An all-day international conference on public relations has also been scheduled.

A colourful social program will include an evening performance of folk dancing and music in the main congress audito-

rium, ballet at the opera house, and a closing ball.

Bucharest is an attractive city with many squares, trees and flowers, and French-style architecture. The Congress Hall, one of the finest in the world, adjoins the former Royal Palace. Within walking distance are a number of good hotels, including the Athénée Palace which has been designated as headquarters hotel.

Hotel reservation forms may be obtained from the Secretary-General, Fédération Dentaire Internationale, 64 Wimpole St., London W.1, England. The form should be taken to a local travel agent who will secure a hotel reservation by contacting the Rumanian Central Tourist Agency CARPATI.

Delegates holding a valid passport may obtain a tourist visa through the consular offices of the Republic of Rumania or the travel agent who handles their travel arrangements to Rumania. Alternatively, a tourist visa may be obtained direct on arrival at Rumanian frontier posts open to international traffic.

Forms for enrolment at the annual session were included with the October 1969 *FDI News Letter*. The completed form, together with the enrolment fee, should be forwarded to: The Organizing Committee, 58th Annual Session FDI, Uniunea Societatilor de Stiinte Medicale Societatea de Stomatologie, Str. Progresului nr. 8-10, casuta postala nr. 190, Bucuresti, Rumania.

Form International Association of Dentistry for Children

A new International Association of Dentistry for Children was formed at the Second International Symposium of Child Dental Health held in Sienna, Italy, last June. Arvid Syrrist, of Sweden, was elected the first president.

The new group will offer a forum for the exchange of information on children's dental health and the advancement of paedodontics.

Two types of membership are offered: full membership for national associations of dentistry for children, or specialist sec-

tions of national dental associations; and supporting membership for dentists who are interested in dentistry for children.

The International Association will hold scientific meetings every second year, the next being slated for 1971.

Further information may be obtained from The Honorary Secretary, D. S. Berman, c/o Fédération Dentaire Internationale, 64 Wimpole St., London W.1., England.

U.S. Government Adopts New Policy on Denture Reliner and Repair Kits

The United States Food and Drug Administration has adopted a new policy on the use of denture reliner and denture repair kits. Regulatory action with respect to violations of the new policy may be initiated after December 9. The reliners and repair kits will then be regarded as unsafe and misbranded unless labelled as follows:

"Denture reliners, pads and cushions: *Warning — For temporary use only.* Long-term use of this product may lead to faster bone loss, continuing irritation, sores and tumours. For use only until a dentist can be seen."

"Denture repair kits: *Warning — For emergency repairs only.* Long-term use of home-repaired dentures may cause faster bone loss, continuing irritation, sores and tumours. This kit for emergency use only. See dentist without delay."

The American Dental Association had urged the government for many years to adopt a strict policy either removing these products from the market or imposing strict labelling requirements.

Occlusodontia Academy Will Feature New Approaches to Equilibration

B. M. Jankelson and N. F. Guichet will demonstrate their method of occlusal equilibration on patients via closed circuit TV at the thirteenth annual meeting of the American Academy of Occlusodontia on February 14, 1970. The meeting will be held at the Essex Inn, Chicago. For further information, please write to

Francis M. Higgins, 101 N. Evergreen Ave., Elmhurst, Ill., USA.

Midwest Periodontology Meeting in February

The Midwest Society of Periodontology has invited Canadian dentists to attend its 13th annual meeting at the Sheraton Blackstone Hotel, Chicago, February 14-15, 1970. Further information may be obtained from R. L. Wescott, 636 Church St., Evanston, Ill. 60201, USA.

Canadian Dentists Invited to Australia

Canadian dentists have been invited to attend the nineteenth Australian Dental Congress at Brisbane, May 25-29, 1970. Brochures and application forms can be obtained by writing to L. H. Bowen, Canadian Dental Association, 234 St. George St., Toronto 180, Ont.

Asian-Pacific Congress in Bangkok Set for Nov. 1970

Canadian dentists have been invited to attend the 6th Triennial Asian-Pacific Dental Congress in Bangkok, Thailand, November 18-22, 1970. For further information, write Nibhasara Ladavalya, Secretary, Organizing Commission for the 6th Triennial Asian-Pacific Dental Congress, School of Dentistry, Henri Dunant Rd., Bangkok, Thailand.

Dental Education

Faculties Association Meets

At a meeting held in Quebec City September 23-24, 1969, the Association of Canadian Faculties of Dentistry voted to become affiliated with the Association of Universities and Colleges of Canada. In another action the new dental school at the Université Laval was admitted to membership in the ACFD.

Jean-Paul Lussier, dean of the Faculty of Dental Surgery at the Université de Montréal will continue as president for another year. M. A. Rogers, Montreal, is vice-president and D. V. Chaytor, Halifax, is secretary-treasurer. Elected members of the Executive Council were R. V. Blackmore, Edmonton, and J. D. McLean, Halifax.

The next meeting of the ACFD is scheduled for June 24-26, 1970, in Vancouver. Among the topics to be discussed at that time are educational research in dentistry and the relationship of dental education to the provision of dental services to the Canadian population.

Enrolment Climbs in Canadian Schools

Canada's nine dental schools had a total first year capacity of 446 students in 1968-69, up from 389 the previous year. The increase is mainly due to larger classes at the Universities of Western Ontario and British Columbia. Additionally, the University of Saskatchewan accepted its first dental class of 10 students.

Most of the schools hope to increase their capacity over the next few years. As a result, total first year capacity is expected to increase to about 600 by 1973. This includes Quebec's Université Laval which will enrol about 12 students in its first class in 1970.

Increases in capacity are also on the way for dental hygiene schools. Five of the nine dental schools that offer a dental hygiene program are Dalhousie, Toronto, Manitoba, Alberta and British Columbia. Their 1968-69 capacity of 131 students in each of the two years of the program may rise to about 230 by 1973.

The capacity in specialty (clinical), graduate and postgraduate (non clinical) programs is also expected to increase sharply by 1973.

Education Costs Up

Costs of predental and dental education increased in 1968-69, largely because of rising living costs.

Tuition fees generally remained stable. The cost of four years at a dental school and the required number of predental years varied from \$9,198 at the University of Manitoba to \$14,063 at the University of Alberta.

The University of Saskatchewan required a minimum of one year predental training plus five years of dentistry at an estimated cost of \$10,475.

A major reason for the cost variation is that different universities require one, two or three predental years at the university level. The average 1968-69 total annual cost was \$1,521 for predental education and \$2,154 for dental education.

Three Appointed to Alberta Faculty

Dean H. R. MacLean of the Faculty of Dentistry, University of Alberta, has announced three new staff appointments.

P. D. A. Owens, BSc, BDS (Belfast) has been named assistant professor of oral histology and anatomy in the Department of Dental Basic Sciences. His research interests centre on nutritional effects and control mechanisms in dental development.

C. E. Hawrish, BA (Sask.), DDS (Alta.) is associate professor of oral diagnosis. His major research interest is in keratinization of oral epithelium.

A. J. C. Wooller, BDS (Sydney), DDS (Alta.) has been named assistant professor of periodontics. Dr. Wooller's research centres on enzymes of the periodontium.

Dean McLean Stresses Need For Expanded Training Facilities

The operations of a \$17 million dental complex highlighted an address given by J. D. McLean, dean of the Dalhousie dental school, at the Atlantic Provinces Dental Convention in Summerside, Prince Edward Island, September 15.

He told the 110 delegates present that a study was to begin soon to determine the requirements of the Atlantic area. He remarked that there is only one dentist per 5,000 people in the Atlantic area while in

some parts of Canada there was one per 2,300 people.

"We [the Atlantic Provinces] have about half as many dentists per capita as the rest of the country; so there is a need for heroic effort to upgrade the situation," Dr. McLean stated.

He went on to point out that "if the dental school expansion plans, which are before the department of health in each of the four provinces, are approved and carried out immediately, then the new dental facilities would be ready for operation by the fall of 1973."

Dr. Blackmore at Ottawa Conference

R. V. Blackmore, chairman of the Department of Research and Graduate Studies at the University of Alberta Faculty of Dentistry, attended the National Health Manpower Conference in Ottawa October 7-10.

The conference, the first of its kind in Canada, was called jointly by the Department of National Health and Welfare and the Association of Universities and Colleges of Canada. Purpose of the meeting was to (1) plan the delivery of total health services during the next decade; (2) determine the numbers and quality of health manpower required for these services; and (3) plan the education of the required manpower.

Royal Canadian Dental Corps

Five Officer Cadets Win Awards

Officer cadets from various Canadian dental schools completed their summer training at the Canadian Forces Dental Service School, Canadian Forces Base Borden, Ont., with graduation ceremonies on August 7. Summer training is a requirement of the Corps' dental officer subsidization plan.

Brig.-Gen. B. P. Kearney, Director General of Dental Services, was reviewing officer when achievement awards were presented to five cadets.

Winners in the third phase of subsidized training were Second Lt. **F. R. Margetts**, University of Alberta, honour cadet and Second Lt. **T. A. Bradley**, also from Alberta, runner-up.

Second Lt. **B. P. Schow**, University of Alberta, was awarded the Chief Instructor's Trophy. Second Lt. **C. G. Mills**, University of Alberta, was runner-up for this award.

Second Lt. **R. A. Hunt**, University of Manitoba, was named honour cadet in the second phase.

Economics

London Life Offers New Dental Insurance Plan

London Life Insurance Company has announced introduction of a new dental insurance plan available throughout Canada to groups of 10 or more people. Its dental benefits supplement London Life's 'Healthguard' insurance which provides medical protection beyond the basic coverage of provincial medicare plans.

Basic Healthguard dental benefits include first dollar coverage for routine examinations, radiographs, fillings, extractions, scaling and prophylaxis, topical fluoride applications and necessary periodontic treatment.

Two additional options provide for (a) orthodontic treatment or (b) inlays, crowns, bridges, dentures and root canal therapy. Healthguard pays half the cost of these benefits.

All benefit payments are based on the full rates established by provincial dental associations.

Czech Dentists Start Retraining

Sixteen Czechoslovak dentists, who failed licensing examinations of the Royal College of Dental Surgeons of Ontario earlier this year, began a retraining program at the University of Western Ontario in September. They hope it will prepare them for licences to practise in Ontario.

The 16, nine men and seven women, came to Canada after the invasion of Czechoslovakia last year.

Although Western's facilities are being used, Western faculty does not participate in the instruction. That is being handled by dental officers from the Canadian Forces Base, Borden.

Each of the 16 has signed an agreement to practise at least three years in an area of Ontario without a dentist after they pass the course at Western.

Brig.-Gen. B. P. Kearney of the Canadian Forces Dental Services estimates the cost of the program at about \$160,000. This is being paid by the Ontario government. The federal government is paying the Czechs a subsistence allowance. It also paid moving costs from Toronto to London and has arranged evening classes in English.

Manitoba Legislature Forms New Committee on Technicians and Mechanics

The Manitoba legislature has established a new committee to determine the role of "dental technicians, denturists and other persons providing dental services."

A report tabled by an earlier committee on April 4, 1966, had concluded that "dentists should retain full control of and be fully responsible for the oral health of the public" (J. Canad. Dent. Ass. 32:388, 1966).

The report said that only qualified persons should work in patients' mouths. It also urged that dental mechanics be brought under a proposed Manitoba Dental Technicians Act and absorbed as auxiliaries into the dental health field. No legislation was enacted pursuant to this report, however.

Munro Rejects Control over Professional Fees

Canada would lose more of its physicians to the United States where medical incomes are higher if government pressure were exerted in Canada to keep down fee increases, Health and Welfare Minister John Munro said September 18.

However, with the introduction of medicare he felt there were areas of negotiation in the fees to be charged by physicians but that this was under provincial jurisdiction.

Private Medical Insurance Plans Quitting

Trans Canada Medical Plans, a national association which co-ordinates physician-sponsored medical care insurance programs, will go out of business next year, giving way to the federal national medicare insurance program.

Other provincial insurance groups affiliated with TCMP have been wiped out or absorbed as provinces entered the national medicare plan sponsored by the federal government.

TCMP affiliated groups in Ontario (Physicians Services Inc. and Windsor Medical Services) closed September 30 on the eve of Ontario's entry into the medicare plan.

Trans Canada Medical Plans covered 30 per cent of the national population under its affiliated plans until medicare was adopted a few years ago.

National Health Insurance Urged in US

American state governors, at a national conference early in September, urged the American government to formulate a universal health insurance system.

The plan recommended by the governors would provide for the purchase of health insurance from private carriers through payroll deductions and employer contributions.

Under the adopted plan, self-employed and unemployed persons not in poverty would pay the full cost of the insurance themselves. The federal government would pay for all living in poverty.

Governor Nelson Rockefeller of New York State was chairman of a committee which drew up a policy statement eventually adopted by the governors. It said "such a program should utilize the existing private enterprise medical system . . .

Publicly paid program . . . should be used only as a secondary program for those who have used up their insurance benefits."

Fluoridation

Edmundston Will be First to Fluoridate in New Brunswick

Edmundston will be the first city in New Brunswick to fluoridate its water supply.

The decision was reached late in September after Edmundston city council learned that the provincial health department would share the cost of installation of fluoridation equipment on a 50-50 basis up to a maximum of \$3,000.

Council promptly approved a proposal to install fluoridation equipment at an estimated cost of \$4,879.

Awards and Honours

M. H. Garvin, Winnipeg, became an honorary member of the Canadian Academy of Periodontology last June. One of Canada's pioneer periodontists, Dr. Garvin was the first Canadian to be elected president of the American Academy of Periodontia in 1926 and was cited as "a leader in the advancement and science of periodontics." A suitably inscribed tray will be presented to Dr. Garvin at the next meeting of the Canadian Academy of Periodontology in Winnipeg.

Recent recipient of an honorary life membership in the New Brunswick Dental Society is **L. O. Leger** of Saint John, New Brunswick. Dr. Leger also received a silver tray honouring his contribution to the society during his 50 years of membership.

Deaths

Baxter, Leo Maurice. 77. Dartmouth, NS. University of Pennsylvania, 1924. 31-8-69.

Gouin, J. A. Gustave. 77. Outremont, Qué. Université de Montréal, 1920. 14-9-69. Survécu par Blanche (épouse); Gilles, Jean-Louis, Réal et Gustave (fils); Mme Marcel Gaudry et Mme Jacques Barrette (filles); Emmanuel, Lorenzo et Ludovic (frères); et 21 petits-enfants.

Hart, Wilfrid George. 72. Brantford, Ont. Royal College of Dental Surgeons of Ontario, 1922. 16-9-69. Survived by Mrs. Aileen Ryerson and Miss Mildred Hart (sisters).

Hendry, William Roy. 72. Toronto. Royal College of Dental Surgeons of Ontario, 1923. 28-9-69. Survived by Sylvia (wife); Mrs. Donald Cox (daughter); Judy and Donna Cox (granddaughters); Harry and George (brothers); and Mrs. H. Calder (sister).

Munn, Patrick Van Allen. 53. St. Catharines, Ont. University of Toronto, 1950. 8-9-69. Survived by David (son); Allison (daughter); Donald and Gordon (brothers); and Mrs. William Godfree (sister).

Pilkey, John Glenney. 75. London, Ont. (formerly Toronto). Royal College of Dental Surgeons of Ontario, 1916. 4-9-69. Survived by Susie Irene (wife); Mrs. N. Barritt and Mrs. G. Renfrew (daughters); Gordon (brother); Mrs. D. Falconer, Mrs. W. Hall and Mrs. P. Kuehner (sisters); and three grandchildren.

Sisson, Elmo Wesley. 84. Bowmanville, Ont. Royal College of Dental Surgeons of Ontario, 1909. 6-10-69. Survived by James and Stephen (sons) and Mrs. S. R. Henderson and Mrs. H. W. Green (daughters).

Thomas, Frank Crocker. 74. Saint John, NB. Dalhousie University, 1919. 23-7-69. Survived by Margaret (wife) and Shenton, Richard and Morton (brothers).

Torrie, Robert McIntyre. 45. Victoria. University of Alberta, 1951. 25-8-69.

les actualités dentaires

Le Canada

Appel contre la taxe de vente sur les édulcorants artificiels

Les Laboratoires Abbott feront appel à la Cour de l'Echiquier de la récente décision du gouvernement d'imposer la taxe de vente fédérale de 12 p.c. aux édulcorants artificiels.

Les fabricants de "Sucaryl" soutiennent que leur produit devrait être exempt de taxe parce qu'il est prescrit par les médecins et les dentistes pour traiter ou pour prévenir l'obésité, le diabète et la carie dentaire, et qu'il se range dans la catégorie des produits de santé tels que la définit la Loi fédérale sur la taxe d'accise. Le ministère du Revenu national affirme que les édulcorants artificiels sont simplement des substances chimiques et par conséquent sujets à la taxe de vente.

Lutte juridique entre médecins et pharmaciens

Des accusations d'exercice illégal de la médecine ont été portées par le Collège des médecins et chirurgiens de la province de Québec contre 28 pharmaciens de Chicoutimi et de la région. Selon l'acte d'accusation, les prévenus auraient "illégalement exercé la médecine en posant plusieurs actes médicaux, plus spécifiquement en donnant une consultation à une certaine dame, en établissant un diagnostic quant à son état, en lui prescrivant un médicament et en prenant part à son traitement, le tout alors que ledit pharmacien n'était pas enregistré comme médecin licencié de cette province, suivant la loi,

le tout contrairement aux dispositions de la loi médicale du Québec".

Cette poursuite du Collège des médecins vient quelques semaines après celle intentée par le Collège des pharmaciens du Québec contre deux médecins d'Alma. Au début du mois de septembre, ils avaient été reconnus coupables d'avoir vendu un médicament et avaient été condamnés à \$200 d'amende chacun et aux frais.

Au total 110 pharmaciens ont été inculpés dans la province de Québec. Ceux-ci viennent des régions de Québec, Roberval, La Tuque, Shawinigan et Trois-Rivières.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association dentaire canadienne étaient les suivantes au 30 septembre:

Fonds d'obligations gouvernementales \$13.639;

Fonds d'obligations corporatives \$14.962;

Fonds d'actions ordinaires \$24.389.

L'avoir total (valeur marchande) du régime se montait à \$9,263,382.81.

Au cours du mois précédent, les transactions, achats et ventes, d'actions ordinaires ont été les suivantes: achat 15,000 actions de Zellers Ltd. et 3,000 actions de Union Gas Co. Ltd.; vente 700 actions de Dillingham Corporation.

Pour de plus amples renseignements, veuillez écrire à: CDA-sponsored Pension and Insurance Plans, 230 St. George St., Toronto 180, Ont.

La chiropractie sera reconnue au Québec

Le ministre de la Santé du Québec, M. Jean-Paul Cloutier, a annoncé que l'Assemblée nationale considérera trois projets de loi visant à réglementer la profession du chiropraticien, de l'ostéopathe et de l'infirmier lors de la session d'automne. Cette déclaration a été faite le 21 septembre devant les membres du Syndicat professionnel des chiropraticiens à l'occasion de leur congrès annuel.

Bien qu'une commission royale d'enquête, formée en 1963 avait recommandé en juillet 1965 que les chiropraticiens obtiennent un statut légal, la province de Québec est l'une des rares provinces au Canada qui ne l'a pas encore accordé.

M. Cloutier a été incapable de dire si les soins donnés par les chiropraticiens seront inclus sous le régime de l'assurance-maladie.

La nouvelle loi pourrait également mener à l'organisation de l'enseignement de la chiropractie à l'Université du Québec à Montréal.

La capitale nationale

Enregistrement possible des agents parlementaires de couloir

Selon le *Financial Post*, M. Ronald Basford, ministre de la Consommation et des Corporations, envisage de faire enregistrer auprès de son ministère tous les agents parlementaires de couloir ("lobbyists") exerçant dans la capitale fédérale. On leur demandera même de communiquer en détail le nom de leurs clients et la façon dont ils emploient les fonds qu'ils reçoivent.

Si le projet se réalise, les quelques avocats et agents de relations publiques assez bien connus qui exercent ouvertement le métier ne seront pas les seuls à devoir s'inscrire. M. Basford vise également les journalistes de la tribune de la presse, les sénateurs, les politiciens retraités et même les députés qui pourraient être retenus pour représenter des intérêts externes auprès du cabinet fédéral.

Voici un exemple de ce dont il s'agit:

lorsqu'un avocat ou comptable assez bien connu rencontre un ministre pour plaider en faveur du libre-échange des récepteurs de télévision, il est bon que le ministre puisse consulter la liste des agents de couloir pour découvrir si son visiteur représente un fabricant étranger d'appareils électroniques. Il n'y a pas de mal à soutenir une telle cause, mais le ministre se trouvera alors mieux à même d'apprécier l'objectivité du point de vue qu'on lui a présenté.

Chronique internationale

Réunion de la FDI en Roumanie l'année prochaine

En 1970, la Fédération Dentaire Internationale tiendra son assemblée annuelle — la 58^e — à Bucarest, en Roumanie, du 26 septembre au 1^{er} octobre.

Le programme scientifique de quatre jours comportera principalement les thèmes suivants: le rapport entre la plaque, la carie dentaire et les maladies périodontales; les apports de la chirurgie à l'orthodontie; l'organisation du cabinet dentaire. Une conférence internationale d'une journée sur les relations publiques est également prévue.

Le programme de divertissements comprendra une soirée de musique et de danses folkloriques dans la principale salle des congrès, un ballet à l'opéra ainsi qu'un bal de clôture.

Bucarest est une ville attrayante avec ses nombreuses places plantées d'arbres et de fleurs et son architecture à la française. Le Palais des Congrès, l'un des plus beaux du monde, est contigu à l'ancien Palais royal. On trouve à quelques pas nombre de bons hôtels, y compris l'hôtel Athénée Palace qui servira de quartier général.

Pour obtenir des formules de réservation d'hôtels, s'adresser au Secrétaire-général de la Fédération Dentaire Internationale, 64 Wimpole Street, London W.1, Grande-Bretagne. La formule doit être confiée à une agence de voyages locale qui obtiendra la réservation en se mettant en rapport avec l'Agence roumaine centrale de tourisme, CARPATI.

Les délégués munis d'un passeport valide pourront obtenir un visa touristique par l'intermédiaire des consulats de la République de la Roumanie ou de l'agence de voyages qui s'occupe d'organiser leur voyage en Roumanie. Le visa touristique peut également être accordé au moment de l'arrivée aux postes frontières roumains ouverts au trafic international.

Des formules d'inscription à la session annuelle ont été jointes au *FDI News Letter* d'octobre 1969. La formule dûment remplie doit être envoyée avec les frais d'inscription à l'adresse suivante: Le Comité d'organisation, 58^e session annuelle de la FDI, Uniunea Societatilor de Stiinta Medica Societatea de Stomatologie, Str. Progresului nr. 8-10, casuta postala nr. 190, Bucuresti, Rumania.

Nouveau règlement du gouvernement des E.-U. sur les trousse de produits pour rebasage et réparation de dentiers

La Food and Drug Administration des Etats-Unis a adopté un nouveau règlement sur l'emploi des trousse de produits pour le rebasage et la réparation de dentiers. Des poursuites touchant aux violations de ce nouveau règlement pourront être exercées à partir du 9 décembre. Les trousse de produits pour rebasage et réparation seront alors jugées comme dangereuses et mal présentées à moins qu'elles ne portent les étiquettes suivantes:

"Produits pour rebasage de dentiers, tampons et coussinets. Mise en garde — Pour usage temporaire seulement. L'emploi prolongé de ce produit peut accélérer l'usure de l'os et entraîner une irritation continue, des ulcérations et des tumeurs. A n'utiliser qu'en attendant de pouvoir voir un dentiste".

"Trousse de réparation de dentiers. Mise en garde — Pour réparations d'urgence seulement. L'emploi prolongé de dentiers ainsi réparés à la maison peut accélérer l'usure de l'os et provoquer une irritation continue, des ulcérations et des tumeurs. Cette trousse ne doit être employée qu'en cas d'urgence. Consultez votre dentiste sans délai".

Il y a déjà plusieurs années que l'Association dentaire américaine recommandait

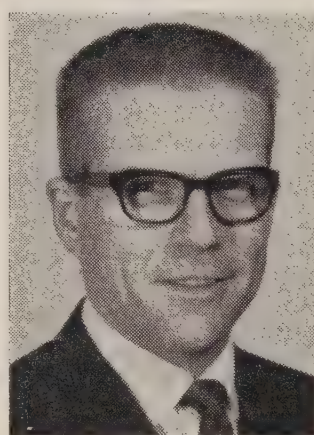
au gouvernement l'adoption d'une politique stricte, soit en retirant ces produits du marché, soit en imposant des conditions d'étiquetage rigoureuses.

Les organisations dentaires

La Société dentaire de Québec élit le Dr Maranda

Le Dr Guy Maranda a été élu récemment président de la Société dentaire de Québec. Il succède au Dr Yves Giguère.

Les autres membres du Conseil exécutif sont les docteurs: Gérard Houle, Jean-Louis Bertrand, Amyot Langlois, Marcel Proulx, Pierre Marchand, Jean-Claude Giguère et Gérard Fortin.



Le Dr Guy Maranda

Le programme scientifique sera basé sur un rapprochement entre les membres des professions dentaire et médicale.

L'enseignement dentaire

Laval se prépare pour 1971

Le premier directeur de la section de chirurgie dentaire à l'Université Laval, le Dr Gustave Ratté, a retenu les services de quatre praticiens qui, en ce moment, poursuivent des études postgraduées pour se préparer à l'enseignement. Il s'agit des docteurs Gérard Bergeron, Paul Jean, Raymond Ouellet et Normand Tardiff. Sept autres dentistes se joindront aux rangs du personnel enseignant.

La section de chirurgie dentaire disposera de 100,000 pieds carrés dans le complexe des sciences de la santé. Elle accueillera ses premiers étudiants en septembre 1971. Le nombre d'étudiants sera d'abord limité et atteindra éventuellement 48 par année.

Le Dr Ratté est un ancien président de l'Association dentaire canadienne.

Augmentation du coût des études

Le coût des études prédentaires et dentaires a augmenté en 1968-69, dû en grande partie à la hausse du prix de la vie.

En général, les frais de scolarité sont restés stables. Le coût de quatre années d'études dans une faculté dentaire et du nombre requis d'années d'études prédentaires variait entre \$9,198 à l'université du Manitoba et \$14,063 à l'université de l'Alberta.

L'université de la Saskatchewan exige un minimum d'un an de formation pré-dentaire plus cinq années d'art dentaire, le tout se chiffrant à \$10,475.

L'écart entre les montants des frais s'explique surtout par le fait que les diverses universités demandent une, deux ou trois années d'études prédentaires au niveau universitaire. La moyenne du coût total annuel en 1968-69 était de \$1,521 pour les études prédentaires et \$2,154 pour les études dentaires.

Augmentation des inscriptions dans les facultés dentaires

La capacité totale en première année des neuf facultés dentaires canadiennes était de 446 étudiants en 1968-69, une hausse de 57 sur l'année précédente. Cette augmentation est due surtout à l'agrandissement des classes des universités Western Ontario et de la Colombie britannique. En outre, l'université de la Saskatchewan a accueilli sa première classe dentaire de 10 étudiants.

La plupart des facultés espèrent augmenter le nombre de places au cours des prochaines années. On s'attend que le nombre d'étudiants s'élève à environ 600

d'ici 1973. Ceci prend compte de l'Université Laval de Québec, qui acceptera environ 12 étudiants dans sa première classe en 1970.

On prévoit également une augmentation du nombre de places dans les écoles d'hygiène dentaire. Les cinq facultés dentaires qui offrent des cours d'hygiène dentaire sont celles de Dalhousie, de Toronto, du Manitoba, de l'Alberta et de la Colombie britannique. Leur capacité, qui est de 131 étudiantes pour chacune des deux années du cours, pourrait atteindre 230 d'ici 1973.

Le nombre de places disponibles pour l'étude des spécialités cliniques, ainsi que les études universitaires et post-graduées non-cliniques devraient également augmenter fortement d'ici 1973.

L'économie

Augmentation astronomique du coût de la santé au Canada

Le Premier Ministre du Canada, M. Pierre Trudeau, a cité le coût élevé du système de santé et de bien-être social comme l'une des raisons qui ont forcé une réduction du budget fédéral pour l'exercice 1970-71.

Au cours d'une émission télévisée et radiodiffusée le 13 août, M. Trudeau annonçait des mesures destinées à combattre l'inflation croissante: congédiement de fonctionnaires, réduction sévère du budget de la défense et fermeture de quatre bases militaires.

Le Premier Ministre a annoncé que 25,000 personnes cesseraient d'être à l'emploi du gouvernement fédéral, soit environ 10 p.c. de la fonction publique.

Il a déclaré que les dépenses gouvernementales au Canada en matière de santé et de bien-être social ont plus que doublé au cours des dernières années, de même que les dépenses générales du gouvernement.

Au cours de l'émission M. Trudeau a remarqué que si l'on consacrait des sommes considérables au bien-être, à l'éducation et à d'autres projets importants tout en laissant l'inflation se pour-

suivre, on ne ferait que forcer des centaines de milliers de Canadiens dans un cercle vicieux dont ils ne pourraient s'évader. Donc, en laissant l'inflation se développer librement, plus d'argent procurerait moins de biens.

Le Premier Ministre a déclaré que son gouvernement essaie de faire absorber l'inflation par les services gouvernementaux plutôt que de la transmettre au consommateur par une augmentation d'impôts.

Il a signalé qu'au cours des dix dernières années, les dépenses gouvernementales étaient passées de \$6 milliards à \$11 milliards par an, et qu'elles allaient encore doubler au cours des prochains cinq ans, si on les laissait augmenter chaque année au même taux que précédemment.

M. Munro refuse de contrôler les honoraires professionnels

Le ministre de la Santé et du Bien-être social, M. John Munro, a déclaré le 18 septembre que le Canada pousserait encore plus de ses médecins vers les États-Unis (où les revenus des médecins sont plus élevés) si le gouvernement exerçait des pressions pour limiter l'augmentation des honoraires.

Toutefois, avec la mise en place de l'assurance-maladie, M. Munro pense qu'il existe des domaines à négocier quant aux honoraires demandés par les médecins, mais que cette question relève de la juridiction provinciale.

Le Conseil économique prévoit une forte augmentation des dépenses de santé

Selon le Conseil économique du Canada, les dépenses gouvernementales dans le domaine de la santé seront stimulées par l'adoption de l'assurance-maladie par tout le pays, et s'élèveront plus rapidement que tout autre chapitre des dépenses gouvernementales au cours des cinq années à venir.

En 1975 ces dépenses pourraient approcher de \$5 milliards—près du double du niveau atteint en 1967.

L'adoption du régime fédéral de l'assurance-maladie par toutes les provinces représenterait environ la moitié de l'augmentation des dépenses dans le domaine de la santé.

Les prévisions du conseil quant au régime de l'assurance-maladie tiennent compte de l'augmentation de la population et d'un plus grand usage des services médicaux, mais elles reposent sur l'hypothèse d'un ralentissement sensible dans le relèvement des honoraires des médecins.

Le président du conseil, M. Arthur Smith, déclare que ces honoraires ont connu dernièrement une escalade rapide, "peut-être en prévision du régime de l'assurance-maladie".

Il estime qu'on en arrivera sans doute à des négociations de l'échelle des honoraires entre gouvernements et associations médicales à mesure que les programmes et le coût de l'assurance-maladie grandiront.

Le conseil constate que même si les dépenses publiques et privées, qui se font au Canada dans le domaine de la santé, se rangent parmi les plus fortes du monde calculées par habitant, l'expectative de vie du Canadien mâle depuis sa naissance est moindre que pour beaucoup d'autres pays. Le Canada se place, par exemple, au-dessous du Danemark, d'Israël, de la Norvège, de la Suède, des Pays-Bas et de la Suisse.

Abandon des régimes privés d'assurance médicale

Une association nationale qui s'occupe de coordonner les régimes d'assurance médicale organisés par les médecins, la Trans Canada Medical Plans, cessera d'exister l'année prochaine pour faire place au régime fédéral de l'assurance-maladie.

Les autres groupes provinciaux d'assurance affiliés à la TCMP ont disparu ou ont été absorbés à mesure que les provinces se sont jointes au régime national de l'assurance-maladie organisé par le gouvernement fédéral.

Les groupes affiliés à la TCMP en Ontario (Physicians Services Inc. et Windsor Medical Services) ont fermé leur porte le 30 septembre, veille de l'entrée de l'On-

tario dans le régime de l'assurance-maladie.

Les régimes affiliés à la TCMP couvraient 30 p.c. de la population canadienne jusqu'à l'adoption de l'assurance-maladie il y a quelques années.

Les services optométriques devraient être inclus

Les ministres provinciaux de la Santé réunis à Halifax à l'occasion de leur cinquième assemblée annuelle ont appuyé une recommandation au gouvernement fédéral demandant que les frais d'exams de la vue par les optométristes soient inclus parmi les bénéfices de l'assurance-maladie.

Le président de l'assemblée, M. R. Donahoe, ministre de la Santé de la Nouvelle-Ecosse, a expliqué que des personnes qui n'ont jamais visité l'oculiste ont eu besoin toutefois des services de l'optométriste, considéré comme non-médical. Présentement, l'assurance-maladie paie pour les services de l'oculiste mais non pour ceux des optométristes.

Les ministres présents ont d'autre part regretté que le gouvernement fédéral se retire des programmes à frais partagés ayant trait à la santé. Ottawa cessera de défrayer une partie du coût de construction des hôpitaux à la fin du mois d'avril prochain, en plus de ne plus verser de subsides pour la santé durant trois ans, commençant cette année.

Les contributions au régime de rentes en 1970

Des changements seront apportés aux contributions au Régime de rentes, à compter du 1er janvier prochain. Ces changements font suite à la hausse de l'indice des rentes pour 1970, consécutive à l'augmentation de l'indice des prix à la consommation entre le 1er juillet 1968 et le 30 juin 1969.

Les principaux montants modifiés pour 1970, en ce qui concerne les employeurs, sont les suivants: maximum des gains admissibles: \$5,300; maximum des gains cotisables: \$4,700; maximum de la contribution par un salarié: \$84.60. Les em-

ployeurs devront donc, à compter du 1er janvier 1970, tenir compte des nouveaux montants maximums, aux fins de déduction de la contribution de leurs employés. Ils devront surtout se rappeler d'effectuer les déductions en 1970 jusqu'à ce que le nouveau maximum de \$84.60 ait été atteint, dans le cas de leurs employés dont le salaire est supérieur au maximum des gains admissibles. Rappelons que le maximum de la contribution par un salarié, en 1969, est de \$82.80.

Les tables actuellement utilisées pour déterminer la déduction de contribution à effectuer continueront à servir en 1970. Cependant, le Guide de l'employeur qui accompagne ces tables sous forme de brochure distincte devra être modifié pour tenir compte, dans ses explications, des changements découlant de la hausse de l'indice des rentes.

La législature du Manitoba crée un nouveau comité sur les techniciens dentaires

L'Assemblée législative du Manitoba vient de former un nouveau comité chargé de définir le rôle des "techniciens dentaires, des mécaniciens faisant les traitements prothétiques ("denturists") et autres personnes fournissant des services dentaires".

Le rapport déposé le 4 avril 1966 par un comité précédent avait conclu que "les dentistes devraient conserver le contrôle total et être pleinement responsables de la santé buccale du public". (J. Ass. dent. canad. 32:438, 1966)

Le rapport déclarait que seules des personnes qualifiées devraient soigner la bouche des patients. Il recommandait également de soumettre les techniciens dentaires à une nouvelle "Loi des Techniciens dentaires du Manitoba" et de les intégrer au domaine de la santé dentaire en qualité d'auxiliaires. Ce rapport n'a toutefois donné lieu à aucune législation.

Pour une assurance-maladie nationale aux Etats-Unis

Lors d'une conférence tenue au début de septembre, les gouverneurs des états

américains ont encouragé le gouvernement central à formuler un système universel d'assurance-maladie.

Le régime recommandé par les gouverneurs prévoit l'achat de l'assurance-maladie des compagnies privées d'assurance, au moyen de déductions de salaire et de contributions de l'employeur.

Selon ce régime, les personnes établies à leur compte et les chômeurs au-dessus du niveau de pauvreté paieraient eux-mêmes le coût complet de l'assurance. Le gouvernement paierait la prime des indigents.

M. Nelson Rockefeller, gouverneur de l'état de New-York, présidait le comité qui a rédigé une déclaration d'orientation qui a été finalement adoptée par les gouverneurs. Elle déclare "qu'un tel programme devrait utiliser le système de médecine actuel basé sur l'entreprise privée . . . Les programmes financés par l'état . . . ne devraient être utilisés que comme régimes secondaires par ceux qui ont épuisé leurs prestations d'assurés".

La fluoration

La marche de la fluoration au Québec

A la suite d'une requête présentée par les dentistes de la ville de Gatineau, le conseil municipal a résolu d'installer un système de fluoration de l'eau potable.

Par ailleurs, le conseil municipal de la ville de Granby a adopté une résolution demandant au gouvernement provincial de participer au financement de l'installation d'un appareil de fluoration.

Outremont demande la fluoration

La ville d'Outremont s'est jointe à 36 autres municipalités du Québec en adoptant des résolutions adressées au gouvernement provincial ou à la ville de Montréal, réclamant que l'eau de consommation soit additionnée de fluor.

Les autres villes ayant adopté des réso-

lutions favorables à la fluoration sont: Verdun, LaSalle, Drummondville, Shawinigan, Valleyfield, Longueuil, Montréal-Nord, Arvida, Asbestos, Beauharnois, Boucherville, Windsor, Vanier, Trois-Rivières, Saint-Jean, Plessville, Noranda, Montmagny, Saint-Hilaire, Malartic, Maniwaki, Lauzon, Hull, Charlesbourg, Châteauguay, Donnacona, Chicoutimi, Granby, Farnham, Gagnon, Duberger, Sorel, Saint-Hyacinthe, Neuchâtel, Saint-Jérôme et Iberville. Ces villes favorisent, pour la plupart, que la fluoration devienne obligatoire par législation.

A Outremont, deux conseillers sur huit ont voté contre la fluoration prétextant qu'il appartient au gouvernement provincial de statuer sur cette mesure. La résolution adoptée prévoit qu'une requête soit envoyée immédiatement au comité exécutif de la ville de Montréal, le priant de prendre toutes les dispositions qui s'imposent pour que l'eau fournie à la ville d'Outremont soit traitée au fluor.

La recherche

L'électricité pourrait corriger certaines affections osseuses

Des chercheurs américains vont essayer de déterminer si l'électricité peut reconstituer le tissu osseux malade ou endommagé et aider à corriger l'alignement défectueux des dents. Ce projet pourrait ainsi mettre au point un nouveau traitement pour résoudre divers problèmes dentaires. Dans le cas de la maladie périodontique, la mobilité des dents est due à la résorption de l'os de soutien. Chez l'édenté, l'érosion du maxillaire rend l'adaption de dentiers souvent difficile. A présent cette perte de tissus osseux ne peut pas être corrigée.

Le Dr A. L. Bassett, de l'université Columbia de New York, entreprendra des études sur des animaux pour déterminer si l'électricité peut corriger les affections osseuses. Il a déjà découvert que les électrodes négatives peuvent stimuler la production de tissus osseux tandis que l'électrode positive est associée à une diminution de la formation osseuse. Le Dr

Bassett a également démontré que la pression engendre une sorte d'électricité dans l'os. Ces constatations expliquent peut-être comment la pression peut remodeler l'os.

Les orthopédistes et les orthodontistes se servent déjà de la pression. Le fil que l'orthodontiste pose sur la dent pour la déplacer transmet la force au ligament périodontique et à l'os de soutien. On obtient ainsi le ralignement des dents. Le Dr Bassett a pu détecter de l'électricité générée dans l'os à partir de forces semblables à celles qu'exercent les appareils d'orthodontie. Il en déduit qu'on pourrait peut-être modifier l'os plus directement à l'aide de courants électriques. L'électricité deviendrait alors un instrument nouveau dans le traitement des affections dentaires et osseuses.

Plus de thrombose chez les Canadiens français

Une étude menée à l'hôpital bilingue Jeffrey Hale de la ville de Québec a révélé qu'un plus grand pourcentage (30 p.c.) de francophones que d'anglophones succombent à la thrombose.

Le Dr Yves Morin, directeur de l'Institut de Cardiologie de Québec et président du Conseil de recherche médicale du Québec a révélé que les deux groupes observés provenaient de niveaux sociaux semblables et faisaient le même genre de travail. Le Dr Morin a déclaré que les Canadiens français consomment cependant une plus grande quantité de liqueur douce que n'importe quel peuple au monde! Les statistiques démontrent aussi que 63.8 p.c. des Québécois fument la cigarette. Le

surpoids et le manque d'exercice est également chose fréquente chez les Canadiens français.

Les maladies cardiaques tuent 15,000 Québécois chaque année. "Ceci est équivalent à la disparition d'une ville comme St-Lambert ou Grand'Mère", a déclaré le Dr Morin. Il recommande un régime alimentaire sain, l'exercice physique et l'abandon de la cigarette.

Conserver la douleur mais annuler la souffrance

Le Dr J. Skinner, professeur de neurophysiologie à l'université Baylor, pense qu'il existe dans le cerveau un foyer contrôlant les douleurs intenses et il utilise le cerveau des singes pour le prouver. Bien que certaines interventions chirurgicales abolissent la douleur, d'autres facultés sont également détruites.

Le Dr Skinner veut en arriver à localiser la douleur avec précision et à laisser au patient la sensation de la douleur sans qu'il en souffre. Il a construit une sonde spéciale dont la pointe peut être refroidie, abaissant ainsi la température des cellules environnantes dans un rayon d'un millimètre. Cette baisse de la température dans le cerveau empêche temporairement toute réaction particulière de la zone ainsi affectée. Le Dr Skinner peut donc fixer exactement le rôle précis de chaque partie du cerveau, en observant quelle fonction cérébrale persiste ou est abolie. Inversement, la sonde peut être réchauffée à sa base pour rétablir le fonctionnement des cellules refroidies.

Une fois le foyer localisé, le neurochirurgien peut alors insérer une sonde chauffée afin de détruire ces cellules.

direct pulp capping with Dycal[®]

a clinical survey

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This is a clinical study of the use of a calcium hydroxide cement for direct pulp capping. One hundred and ninety-four of 207 teeth with fresh mechanical or carious pulp exposures survived the treatment for periods ranging up to six years. Clinical tests were unsatisfactory as a basis for predicting the long-term effect of this therapy.

Les auteurs ont étudié l'emploi clinique du ciment à l'hydroxyde de calcium pour le coiffage direct de la pulpe. Cent quatre-vingt-quatorze dents sur 207, qui avaient subi une mise à nu de la pulpe par des moyens mécaniques ou dû à la carie, ont survécu le traitement durant une période allant jusqu'à six ans. Les tests cliniques n'ont pas formé une base satisfaisante à partir de laquelle l'effet à long terme de cette thérapeutique pouvait être prédite.

The earliest use of calcium hydroxide as a pulp capping agent seems to have been by Hermann¹ in 1930. Eight years later Teuscher and Zander² used Calxyl to cap exposed pulps in 120 cases. Two of these teeth were extracted and examined after three and a half months. The pulps were free of inflammation and showed cellular organization, organic matrix and complete dentine bridge formation.

Similar success with calcium hydroxide was reported by Zander³ in 1939, Glass and Zander⁴ in 1949, Hess⁵ in 1950, and others.⁶⁻¹⁵

All of these investigations were short-term studies. Although the advantages of a histological study are evident, there is great need for a long-term clinical study to determine what happens to these teeth after treatment.

For several years a calcium hydroxide cement, Dycal (L.D. Caulk Co., Milford, Delaware), has been used in adult patients at the University of Alberta as a direct pulp capping agent with apparent success. To evaluate the long-term results of this treatment, 179 patients were examined annually during the past five years.

METHOD AND MATERIALS

Pulp exposures made by third and fourth year dental students in the adult patient operative clinic were used for the study. The age of the patients ranged from 14 to 52 years at the time of treatment.

The operative area was anaesthetized with a local anaesthetic (procaine HCl) except in patients with a history of sensitivity to this drug. The area was isolated and dried using a full arch rubber dam.

The cavity preparation was extended to the classical or ideal form, ignoring any caries present. The remaining carious dentine was then removed with spoon excavators or sterile burs revolving at slow speed. If pulp exposure occurred during the operation, the carious material was removed. Sterile cotton pellets moistened in water were used to control any haemorrhage, and the cavity was dried with dry cotton pellets. Dycal was then mixed, allowed to flow over the exposure site and left to harden before proceeding with the base (if needed) and final restoration. The surface restorations were: amalgam 168, silicate cement 20, and cast gold 16. Three remain to be placed.

The exposures were classified and recorded as (1) mechanical (caries did not extend to the pulp), (2) carious (caries did extend into the pulp), or (3) questionable (caries extended close to the pulp). The date of exposure, name and age of the patient and final restorations used were recorded.

Exposures were considered for direct pulp capping if bright red blood was observed at the exposure site. When only dark fluid could be seen, the patient was referred for endodontic treatment or the tooth was extracted. The size of the exposure could not be measured but all, including large exposures, were included in the study. Postoperative periapical radiographs were taken of all treated teeth.

Thereafter, the patients were recalled annually for a routine examination of the treated teeth. This consisted of vitality tests with (1) ethyl chloride on a cotton applicator stick as a cold test, (2) heated gutta percha as a hot test, and (3) an electric pulp tester. Comparable teeth were used for control tests. Sensitivity to

percussion was also measured (+, ++, +++) by tapping treated and adjacent teeth with the blunt end of a mirror handle.

The patient was asked whether he experienced pain while chewing, eating hot and cold foods, or for any other reason. He was then specifically questioned about the treated tooth.

The condition of the filling was noted, with special reference to recurrent decay and severe leakage which would adversely affect the prognosis.

Using a long cone x-ray technique, periapical radiographs were then taken of the treated teeth to determine (1) continuity of the lamina dura, (2) uniformity and width of the periodontic membrane space, (3) resorption or calcification of the pulp chamber or root canals, (4) density of bone and trabecular pattern, (5) bony support (including evidence of any vertical and horizontal bone loss), (6) recurrent decay and marginal overhangs, (7) apical pathosis, and (8) other irregularities. Evidence of secondary dentine formation and bridging was not noted since little attempt was made to standardize the planes of the periapical radiographs other than by a standard radiographic technique.

RESULTS

In all, 207 exposures were followed in the 179 patients. We tried to recall all the patients in succeeding summers but, unfortunately, this was impossible. As a consequence, 116 treated teeth were re-examined once, 42 were re-examined twice, 42 were re-examined three times and seven were re-examined four times, though not necessarily in consecutive years.

TABLE 1 Classification of pulp exposures.

Carious exposures	145
Mechanical exposures	51
Questionable exposures	11
Total	207

TABLE 2 Time interval between placement of capping material and final recall.

Years in service	No. of teeth
Up to 1 year	22
Up to 2 years	38
Up to 3 years	55
Up to 4 years	39
Up to 5 years	27
Up to 6 years	23
More than 6 years	3

The causes of exposure were: mechanical 51, carious 145, and questionable 11 (Table 1). The affected teeth were observed for periods ranging from less than one year up to six years (Table 2).

Maxillary teeth (130) were exposed more often than mandibular teeth (77). Most frequently exposed was the maxillary first molar (45 times), followed by the lower first molar which was exposed 34 times.

Two hundred and five teeth were cleaned with sterile pellets and water following exposure. One tooth received a 3 per cent hydrogen peroxide rinse and another received a formocresol rinse. Both of these teeth later developed pulpitis and were treated endodontically.

Thirteen of the 207 teeth developed irreversible painful pulpitis and were treated by extraction or root canal therapy. This reflects a total failure rate of about 6.3 per cent. Five of these restorations failed after 27 months of service.

The number of positive vitality tests was relatively low (Table 3). Only 121 teeth responded positively to both the electric pulp tester and ethyl chloride at every recall visit.

The 194 teeth that survived without pulpitis were slightly to moderately more sensitive to percussion than the control teeth used for comparison. One hundred and eighty-six of these teeth gave no hypersensitive reaction at the final visit.

Twenty of the teeth had a painful response to heat or cold but only four of these exhibited spontaneous pain. One complaint of spontaneous pain was from

Table 3 Final recall examination results.

Positive responses to ethyl chloride	142
Positive responses to electric pulp tester	153
Positive responses to ethyl chloride and electric pulp tester	121
Negative responses to percussion	186
Spontaneous pain	4
Irreversible pulpitis	13

a patient who sustained a blow to the teeth.

Periapical radiolucencies and loss of lamina dura were noted in five cases after pain symptoms had developed in that area. Two cases showed periapical radiolucencies without associated symptoms.

Recurrent decay was noted radiographically in two cases. These two cases were associated with periapical radiolucencies. Other radiographic features were noted in a thorough routine examination of each radiograph but could not be correlated with the prognosis or failure of the restorations.

DISCUSSION

The tests used in this study are at the disposal of every dentist. Histological evaluation yields much more detailed information but cannot be performed in the dental office. Nevertheless, the study shows that the treatment described was successful in 93.7 per cent of teeth that might have been doomed to extraction. The findings correlate with those of similar studies by Berk,¹³ Armstrong,¹⁴ and Shankle.¹⁵

Nearly one-half of our failures occurred after the restorations had been in place for over two years. We have no explanation for this except that previous studies have been too short.

Recurrent decay at the gingival margin caused at least two of the failures recorded. This phenomenon, which we attributed to the filling material rather than the capping agent, was included in the results since the survey was designed to record all failures regardless of the cause.

None of the failures that occurred after one year could have been forecast from the previous data. Conversely, several patients who gave negative vitality tests or were sensitive to hot and cold foods did not develop pulpitis in the three and four years we had them under observation. Consequently, the long-term results of this treatment cannot be predicted on the basis of clinical tests.

CONCLUSION

Direct pulp capping with Dycal was clinically successful in 94 per cent of 207 teeth observed for up to six years.

The authors thank Doctors J. L. Ares, Robert Ruzicka, and Alvin Gottschling for their help in collection of data for the study; also Doctor Grant Van Huysen and Professor Paul Barton for their comments in the preparation of the manuscript.

Doctor Jones is an associate professor and Doctor Gibb is head of the Department of Restorative Dentistry at the Faculty of Dentistry, University of Alberta, Edmonton.

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calcification de l'émail et
de la dentine de l'incisive
du rat blanc carencé en
vitamine A

*étude comparative histologique
et microradiographique*

Ph. Conne

et L. J. Baume, DMD, MSD,

Genève, Suisse

Cinquante-cinq rats Wistar sont répartis en cinq groupes selon la nature et la durée de leur régime et la sévérité de la carence en vitamine A: le groupe I comprend des rats hypovitaminosés et le groupe II des rats avitaminosés, tous deux carencés pendant environ 100 jours—avec le groupe III comme contrôle; le groupe IV comprend des rats hypovitaminosés pendant 290 jours environ—avec le groupe V comme contrôle. Sur chacun des rats, les deux incisives supérieures sont prélevées. Sur l'une de ces incisives, il est procédé à des coupes décalcifiées, tandis que sur la controlatérale, des coupes par usure sont faites puis microradiographiées. Les données histologiques et microradiographiques sont comparées. Il est constaté que l'organe de l'émail continue à être formé même après une carence en vitamine A prolongée. Les effets de cette carence se manifestent au niveau de l'émail par un amincissement de la matrice et une perturbation de la structure

prismatique. La lésion biochimique de l'avitaminose A semble devoir être cherchée au niveau du stratum intermedium. La présence d'hypominéralisations et d'hypoplasies est observée. Les hypominéralisations paraissent être en rapport avec une perturbation de la couche papillaire. Des disparitions complètes de l'émail sont décrites au niveau des "vésicules" pouvant apparaître sur la paroi labiale de l'incisive. En ce qui concerne la dentine, la lésion biochimique de l'avitaminose A se situe au niveau des odontoblastes. Des troubles de la calcification, tels qu'un retard de la minéralisation de la prédentine et la formation de dentine interglobulaire sont notés. Des perturbations de la structure sont également observées, notamment au niveau des "vésicules" où toute structure tubulaire disparaît. A cet endroit, les tissus mésenchymateux et épithéliaux tendent à s'interpénétrer et à prendre un aspect cancéreux.

Effects of vitamin A deficiency on the calcification of enamel and dentine in the upper incisor of the white rat: a comparative histological and microradiographic study.

Current knowledge of the dental effects of vitamin A deficiency is largely based on findings from short term histological experiments on rodent incisors. This study was designed to assess microradiographically and histologically the changes in calcification after progressively longer periods of deficiency. Fifty-five white Wistar rats were divided into five groups. Group I received a vitamin A deficient diet for an average of 100 days. Group II was completely deprived of vitamin A for the same period and Group III constituted the pair fed controls. Group IV was subjected to vitamin A deficiency for 290 days on average and the group V rats were also pair fed controls. The animals were sacrificed and their incisors were examined at the end of the experimental period. Ameloblasts were more resistant to vitamin A deficiency than hitherto assumed, and amelogenesis continued in teeth that had

ceased to grow in length. Enamel matrix was reduced in width and the prismatic structure altered. Accordion-like folding produced severe enamel hypoplasia. With respect to enamel, the primary biochemical lesion of vitamin A deficiency seemed to affect the stratum intermedium. Its formation was stunted and subject to precocious atrophy causing retardation and deficiencies of enamel mineralization. Intermittent, complete disorganization of the histodifferentiation of the epithelial and mesenchymal components of the enamel organ including the basal membrane resulted in the formation of 'vesicles' devoid of any enamel. With respect to dentinogenesis, the primary biochemical lesion affected the odontoblasts and resulted in stunted matrix formation at the ventral wall and delayed irregular calcification of predentine at the dorsal wall. This in turn facilitated folding and displacement of the apical region. Severe dentinal hypoplasia occurred intermittently as interglobular dentine and irregular atubular dentine at the sites of 'vesicles.' The complete disorganization of epithelial and mesenchymal tissue derivatives in these vesicles resembled a cancerous condition.

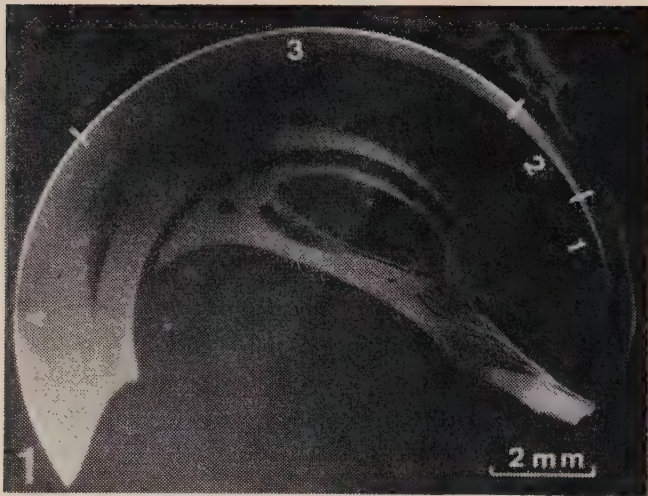


FIGURE 1 L'aspect normal de l'incisive supérieure est montré sur une microradiographie d'une coupe sagittale médiane de l'incisive d'un rat de contrôle du groupe III, âgé de 150 jours. 1, zone de formation de la matrice de l'émail. 2, zone de calcification de la matrice de l'émail. 3, zone de maturation de l'émail. 4, zone de l'émail extra-alvéolaire. x 8.

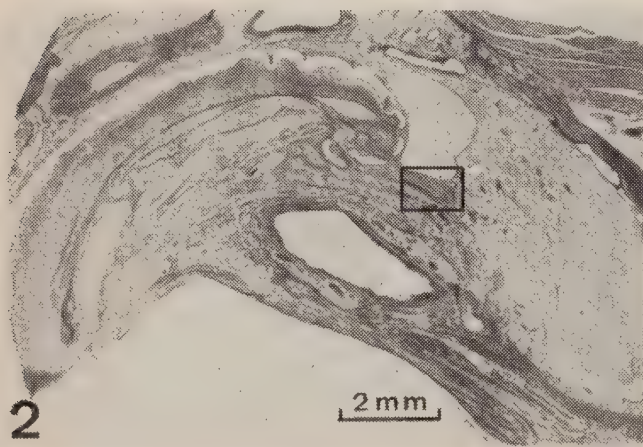


FIGURE 2 Une coupe histologique pratiquée sur un rat du groupe IV, âgé de 407 jours et carencé pendant 378 jours, montre une incisive supérieure en voie d'expulsion. H.E. x 8.

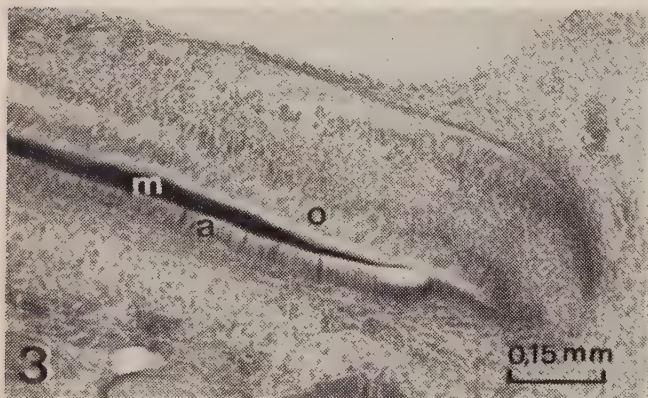


FIGURE 3 Un agrandissement de la figure 2 montre la présence d'un organe de l'émail complet. a, améloblastes. m, matrice de l'émail. o, odontoblastes. H.E. x 8.

Nos connaissances actuelles concernant l'influence de la carence en vitamine A sur les tissus dentaires sont basées principalement sur des observations de l'incisive à croissance continue de rongeurs (rats et cobayes). Les études expérimentales de Wolbach et Howe,¹ complétées par Schour, Hoffman et Smith,² sont devenues classiques. Seul Boyle,³ à notre connaissance, a observé les effets d'une carence en vitamine A sur un germe dentaire humain, confirmant les principaux résultats obtenus chez l'animal expérimental.

De nouvelles techniques d'investigation telles que la microradiographie ainsi que la possibilité de carencer les animaux de laboratoire pendant des périodes beaucoup plus longues que ce qu'il avait été possible de faire jusqu'alors, permettent de jeter une lumière nouvelle sur les effets de la carence en vitamine A sur la calcification des tissus durs de la dent.

Les résultats d'examen radiographiques et microradiographiques des incisives supérieures de rats carencés en vitamine A ont fait l'objet d'une publication antérieure.⁴ Les données histologiques ont été communiquées récemment.⁵

Le but de ce travail est d'étudier plus spécialement la minéralisation des tissus dentaires du rat carencé en vitamine A en comparant les données histologiques et microradiographiques.

MATERIEL ET METHODES

Matériel. — Cinquante-cinq rats Wistar femelles, castrés à l'âge de 42-44 jours, ont été répartis en cinq groupes selon la nature et la durée de leur régime:

Groupe I: 11 rats hypovitaminosés pendant une courte durée; durée du régime de 39 à 146 jours; âge moyen au moment de l'examen 120 jours.

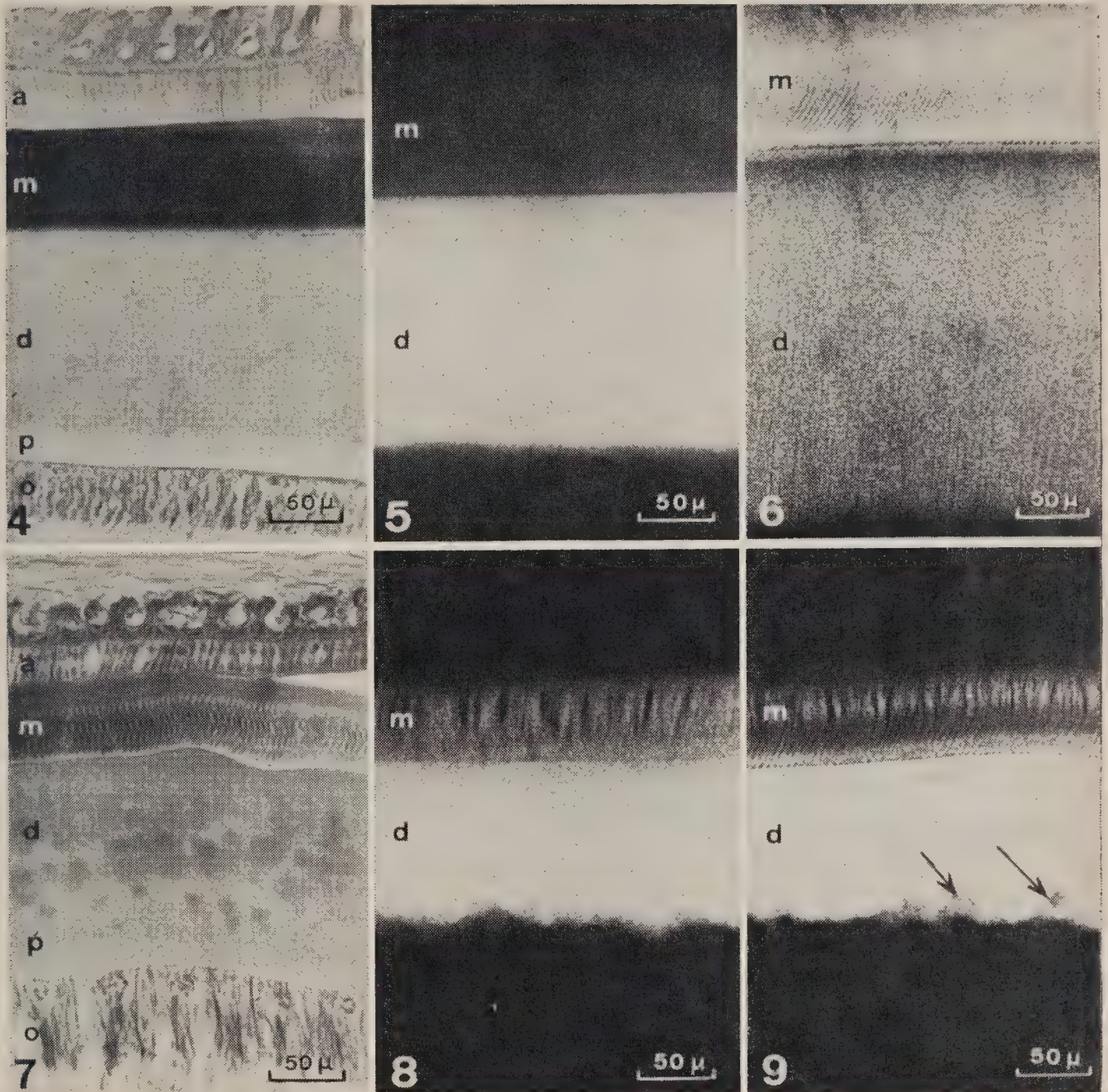
Groupe II: 13 rats avitaminosés; durée du régime de 25 à 140 jours; âge moyen 132 jours.

Groupe III: 18 rats de contrôle nourris ad libitum pour les groupes I et II; âge moyen 131 jours.

Groupe IV: sept rats hypovitaminosés pendant une longue durée; durée du régime de 196 à 378 jours; âge moyen 304 jours.

ANIMAUX DE CONTRÔLE

ANIMAUX CARENCÉS



FIGURES 4-6 La zone de calcification de l'émail est présentée chez 3 rats de contrôle du groupe III. a, améloblastes. m, matrice de l'émail. d, dentine. p, prédentine. o, odontoblastes. x 300. Figure 4: Coupe histologique effectuée sur l'incisive d'un rat âgé de 74 jours. Figure 5: Microradiographie effectuée sur l'incisive d'un rat âgé de 77 jours. Figure 6: Microradiographie effectuée sur l'incisive d'un rat âgé de 150 jours.

FIGURES 7-9 La même zone de calcification de l'émail est montrée chez 3 rats carencés du groupe II. a, améloblastes. m, matrice de l'émail. d, dentine. p, prédentine. o, odontoblastes. x 300. Figure 7: Coupe histologique effectuée sur l'incisive d'un rat âgé de 79 jours et carencé pendant 49 jours. Figure 8: Microradiographie effectuée sur l'incisive d'un rat âgé de 79 jours et carencé pendant 49 jours. Figure 9: Microradiographie effectuée sur l'incisive d'un rat âgé de 149 jours et carencé pendant 120 jours. Les flèches montrent des espaces de Cermak.

Groupe V: six rats de contrôle nourris ad libitum pour le groupe IV; âge moyen 330 jours.

Régime.—Le régime de base était le suivant:

Caséine purifiée 18.0 p.c.

Fécule de riz purifiée 54.0 p.c.

Graisse de coco, purifiée par chauffage et barbotage 13.0 p.c.

Mélange salé 5.0 p.c.

NaCl 5.0 p.c.

lactate de Na 35.0 p.c.

$\text{Ca}_3(\text{PO}_4)_2$ 15.0 p.c.

citrate de Fe 3.21 p.c.

KJ 0.09 p.c.

$\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ 0.03 p.c.

$\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ 5.50 p.c.

$\text{K}_2\text{HPO}_4 \cdot 3\text{H}_2\text{O}$ 26.53 p.c.

$\text{Na}_2\text{HPO}_4 \cdot 2\text{H}_2\text{O}$ 9.60 p.c.

ZnCO_3 0.02 p.c.

$\text{MnSO}_4 \cdot 4\text{H}_2\text{O}$ 0.02 p.c.

NaF 0.003 p.c.

Levure sèche 10.0 p.c.

Supplément vitaminique par kg d'aliment:

pantothénate de calcium 100 mg

chlorhydrate de choline 2850 mg

acetate de DL α -tocophérol 7300 UI

chlorhydrate de thiamine 10 mg

riboflavine-5-phosphate 40 mg

chlorhydrate de pyridoxol 20 mg

Les animaux des groupes III et IV reçurent per os un supplément bihebdomadaire de 50 UI de vitamine A (solution huileuse-arachide-d'acétate de vitamine A). Les rats du groupe IV furent maintenus en état d'hypovitaminose prolongée en recevant à des intervalles d'une ou deux semaines des faibles doses (10 à 25 UI) de vitamine A.

Méthode.—Les 55 têtes ont été coupées sagittalement selon un axe légèrement para-médian. Les hémitêtes possédant la cloison nasale ont été fixées dans le formol 10 p.c. puis décalcifiées dans la solution de Rychle. Elles ont ensuite été enrobées soit dans la celloïdine, soit dans la paraffine, puis débitées en coupes de 12 à 20 μ d'épaisseur pour la celloïdine et de 6 μ pour la paraffine. Le plan de coupe a été modifié trois fois pour chaque tête, en vue d'obtenir d'abord des coupes de la cloison nasale, puis de l'incisive supé-

rieure et enfin des molaires. Les coupes ont été colorées à l'hématoxiline-éosine. Les incisives controlatérales ont été prélevées avec leur os alvéolaire, fixées dans le formol à 10 p.c. deshydratées, puis enrobées dans le méthacrylate de méthyl. Elles ont ensuite été coupées sagittalement au moyen d'un microtome à disque diamanté, puis usées jusqu'à l'obtention d'une épaisseur variant entre 75 et 80 μ suivant la coupe. Les coupes médianes ont été microradiographiées au moyen du diffractographe Hilger HRX, sous un rayonnement monochromatique $k\alpha$ de cuivre de 40 kV et 40 μ A.

Afin de pouvoir situer le niveau des différentes observations, l'incisive a été divisée en quatre zones selon l'évolution de l'émail (Figure 1):

Zone 1: formation de la matrice de l'émail

Zone 2: calcification de la matrice de l'émail

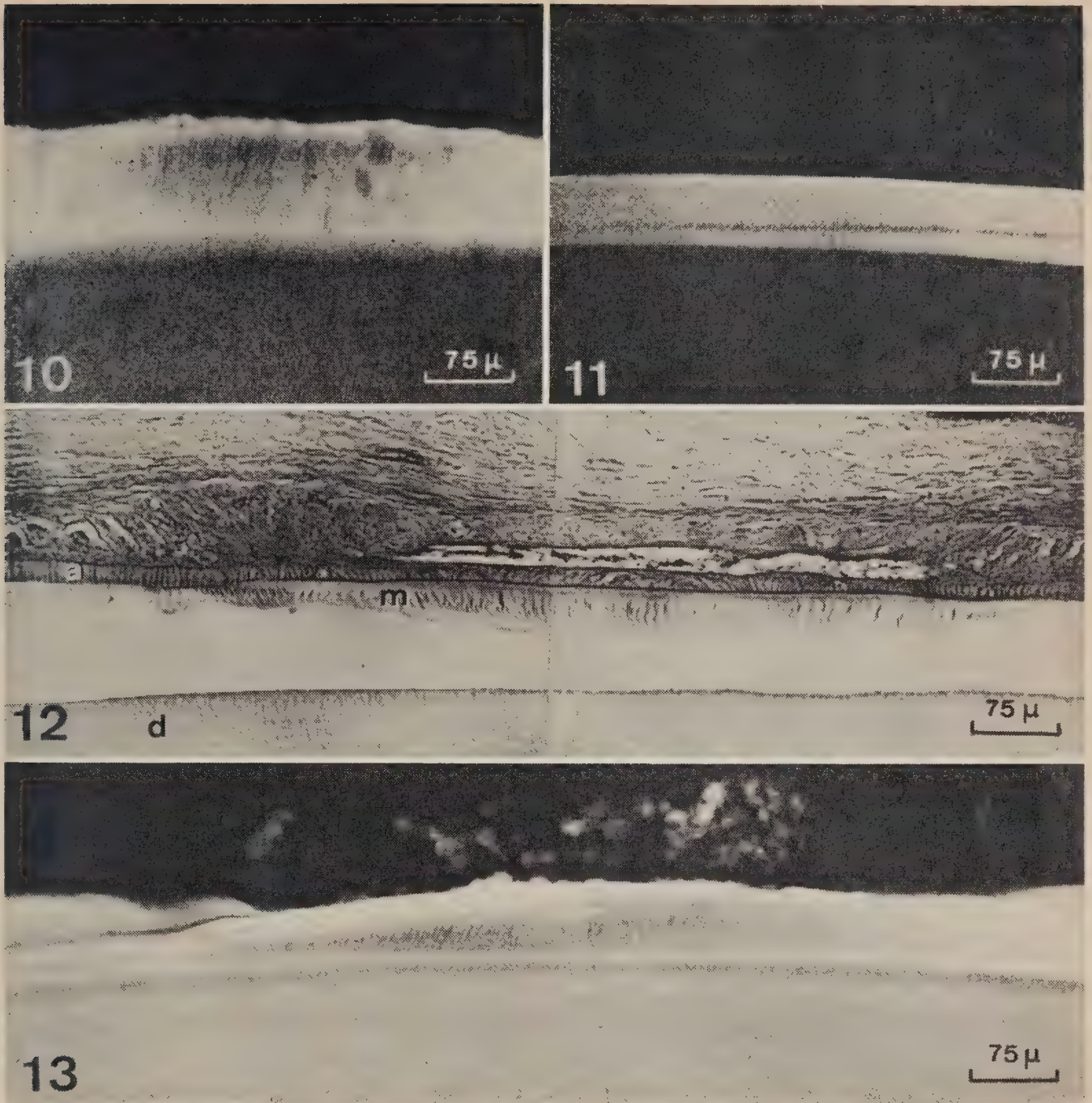
Zone 3: maturation de l'émail

Zone 4: émail extra-alvéolaire

RESULTATS

Email.—Une coupe sagittale médiane de l'incisive supérieure d'un rat du groupe IV carencé pendant 378 jours, fait apparaître de graves dysmorphies de la dent tout entière (Figure 2). Celle-ci est raccourcie de moitié. L'apex atrophié se trouve au milieu de l'alvéole. La partie apicale de la paroi labiale est pliée en accordéon. La paroi linguale, très amincie, est toute sinueuse. Les extrémités apicales sont recroquevillées. Malgré ces graves altérations, l'émail est toujours formé grâce à la présence d'un organe de l'émail complet (Figure 3).

Pour étudier les altérations intervenant au niveau de la calcification de l'émail, trois rats de contrôle (Figures 4 à 6) sont comparés à 3 rats carencés d'âge correspondant (Figures 7 à 9). Une coupe histologique de la zone de calcification de l'émail (zone 2) d'un rat de contrôle âgé de 74 jours (Figure 4) et deux microradiographies de la même zone chez deux rats de contrôle âgés respectivement de 77 et 150 jours (Figures 5 et 6) mettent en évidence les couches interne, médiane



FIGURES 10-11 Microradiographies montrant des hypominéralisations de l'émail chez un rat du groupe II, âgé de 79 jours et carencé pendant 49 jours. x 200.

FIGURES 12-13 Aspects histologique et microradiographique d'hypoplasies de l'émail, montrant la relation entre la perturbation de la couche papillaire et la lésion de l'émail. x 200. Figure 12: Coupe

histologique réalisée sur l'incisive d'un rat du groupe I, âgé de 80 jours et carencé pendant 49 jours, montrant une disparition localisée de la couche papillaire. a, améloblastes. m, matrice de l'émail. d, dentine. Figure 13: Microradiographie réalisée sur l'incisive d'un rat du groupe II, âgé de 62 jours et carencé pendant 25 jours, montrant la "suspension" des sels minéraux au-dessus de la lésion de l'émail.

et externe de l'émail. Les prismes inclinés de 60 degrés vers l'avant dans la couche interne, se redressent légèrement dans la couche médiane pour disparaître dans la couche externe. Chaque couche se calcifie selon un ordre chronologique propre. L'émail est plus épais chez le rat le plus âgé.

Cette même zone de calcification chez trois rats avitaminosés, âgés respectivement de 79, 79 et 149 jours (durée du régime sans vitamine A: 49, 49 et 120 jours), est présentée par les figures 7 à 9. La coupe histologique (Figure 7) met en évidence une perturbation de la structure prismatique. Les prismes, plus grossiers, sont plus sinueux; ils paraissent mal accolés les uns aux autres. Leur disposition fait penser que la surface externe de la matrice migrerait moins rapidement que la jonction dentine-émail dans la direction incisale. Sur les microradiographies les prismes de la couche médiane se dressent à 90 degrés par rapport à la surface. De larges stries radio-transparentes, parallèles au trajet des prismes, sont visibles. A l'instar de la coupe histologique, la structure prismatique disparaît dans la couche externe. L'épaisseur de l'émail est la même entre les deux premiers et le troisième rat malgré la différence d'âge.

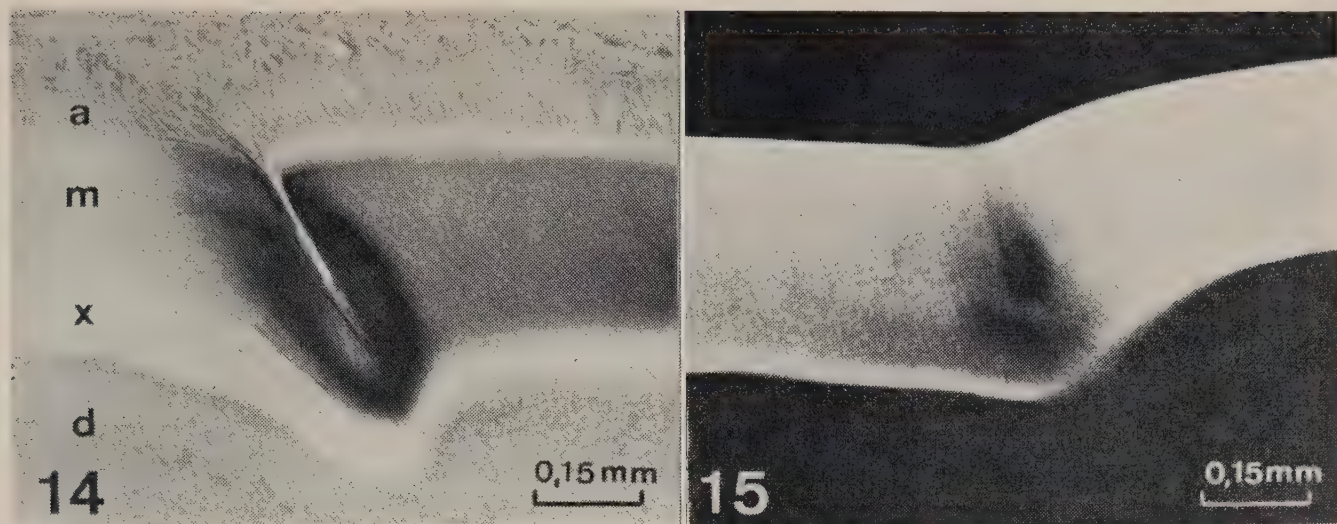
Dans la zone 3 (maturation) et la zone 4 (émail extra-alvéolaire), des hypominéralisations sont mises en évidence par la microradiographie. Elles se traduisent par des taches radio-transparentes d'intensité variable au niveau de la couche médiane (Figure 10). Les couches interne et externe ne semblent pas, ou moins, touchées. Souvent ces hypominéralisations prennent la forme d'une ligne radio-transparente (Figure 11) traversant obliquement la couche médiane de l'émail pour s'approcher de la couche externe au fur et à mesure que l'on s'éloigne de l'apex. Cette "ligne" est une lésion fréquente. Elle a été observée dans les trois groupes d'animaux carencés. Il est à noter que la structure prismatique, normalement pas visible dans les zones 3 et 4, apparaît au niveau des hypocalcifications; elle semble régulière.

L'aspect histologique et microradiographique de deux hypoplasies comparables, observées dans la zone de matura-

tion, est présenté sur les figures 12 et 13. La coupe histologique (Figure 12) montre une portion de l'espace laissé par l'émail décalcifié et de l'épithélium adamantin chez un rat avitaminosé du groupe II, âgé de 80 jours et carencé pendant 49 jours. La couche papillaire a disparu sur une certaine longueur de l'épithélium adamantin, tandis que les améloblastes subsistent. Correspondant à la disparition de la couche papillaire, une partie de la matrice de l'émail est restée présente. Une microradiographie provenant d'un rat âgé de 62 jours carencé pendant 25 jours révèle des altérations à différents niveaux de l'émail. Au-dessus d'une zone hypoplasée, des globules radio-opaques montrent la présence de concrétions calcifiées au niveau de l'épithélium adamantin. Au-dessous de l'hypoplasie, la couche médiane est hypocalcifiée; la structure prismatique apparaît.

Des hypoplasies en profondeur se manifestent sous la forme d'un pli, généralement isolé, touchant profondément la matrice de l'émail. La coupe histologique d'un tel pli au niveau de la zone de calcification d'un rat carencé pendant 209 jours (Figure 14) montre un halo basophile laissant prévoir un retard de la calcification à cet endroit. La structure prismatique reste relativement régulière. Une microradiographie d'une altération semblable au niveau de la zone de maturation d'un rat carencé pendant 378 jours (Figure 15) montre effectivement un "manchon" radio-transparent correspondant à la zone basophile visible sur la coupe histologique.

Un véritable accordéon peut apparaître et toucher toute l'épaisseur de la paroi labiale de la moitié apicale de l'incisive, comme le montrent deux rats du groupe IV carencés respectivement pendant 209 et 291 jours (Figures 16 et 17). Sur la coupe histologique, l'épithélium adamantin a complètement disparu (Figure 16). L'espace de l'émail, large sur le sommet de la vague, se rétrécit au fond du creux. Quelques lambeaux de matrice subsistent çà et là dans cet espace. La microradiographie (Figure 17) confirme les observations faites sur la coupe histologique. L'émail s'amincit au fond du creux de la vague. Des défauts de calci-



FIGURES 14-15 Aspects histologique et microradiographique des plis de l'émail. x 100. Figure 14: Coupe histologique réalisée sur l'incisive d'un rat du groupe IV, âgé de 238 jours et carencé pendant 209 jours. a, améloblastes. m, matrice de l'émail. d, dentine. x, artefact dû au décollement de la matrice de l'émail. Figure 15: Microradiographie réalisée sur l'incisive d'un rat du groupe IV, âgé de 407 jours et carencé pendant 378 jours.

fication correspondent aux parcelles de matrice décrites précédemment.

Des disparitions complètes de la couche de l'émail peuvent se présenter au niveau d'hypoplasies graves intéressant l'ensemble de l'organe dentaire: les vésicules. Celles-ci n'apparaissent que sur la surface labiale (Figures 18 et 19). Il s'agit de deux incisives controlatérales d'un rat âgé de 76 jours carencé pendant 46 jours.

Dentine.—Des perturbations du processus de calcification et de la structure organique sont également observées au niveau de la dentine labiale, bien que la paroi linguale soit la plus touchée par la carence en vitamine A. L'aspect normal de la couche de dentine labiale au niveau de la zone de calcification de l'émail est dépeint sur une coupe histologique d'un rat de contrôle (Figure 4). Une bande plus claire, de largeur régulière, juxtant les odontoblastes, représente la prédentine. Cette prédentine, non calcifiée, n'est pas visible sur les microradiographies (Figures 5 et 6). La limite prédentine-dentine calcifiée est nette tant sur la coupe histologique que sur les microradiographies.

Chez les trois rats carencés d'âges correspondants (Figures 7 à 9) cette limite est irrégulière. La coupe histologique (Figure 7) montre un élargissement de la prédentine dû à un retard de la calcification; celle-ci est irrégulière. La dentine

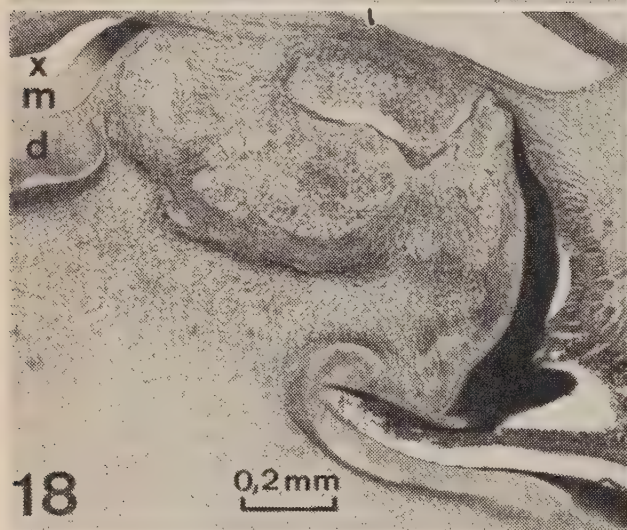
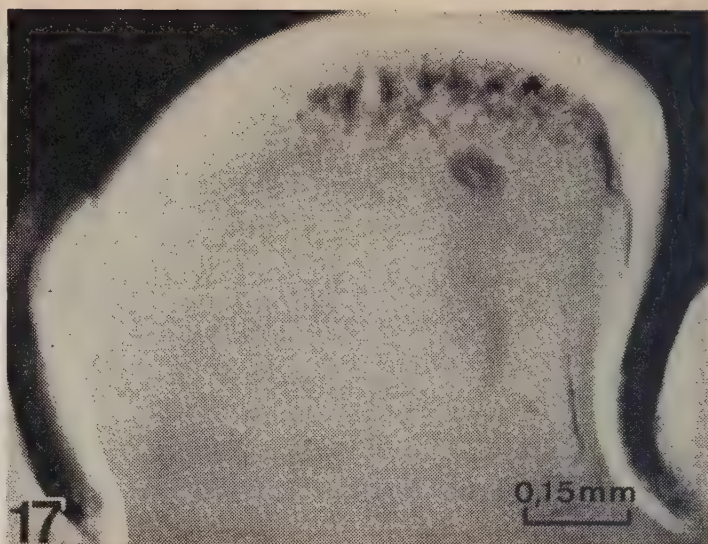
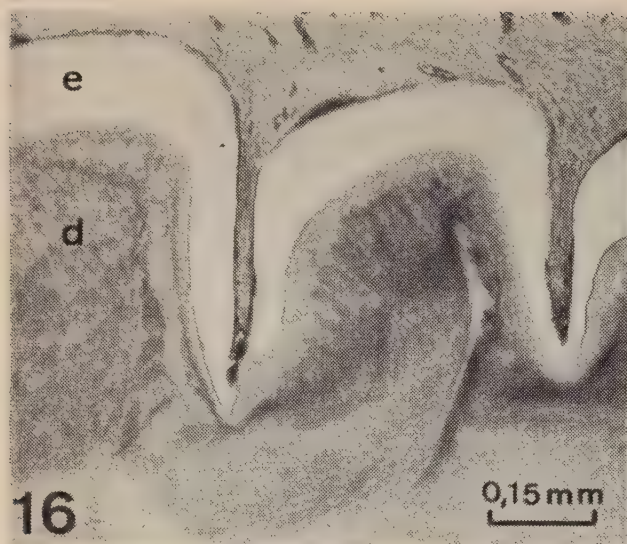
est de type interglobulaire. La coupe histologique (Figure 7) comme la microradiographie (Figure 9) mettent en évidence des "espaces de Cermack". La structure tubulaire ne paraît pas perturbée.

L'épaisseur de la dentine, y compris la prédentine, est la même chez les rats d'âge correspondant. L'épaisseur de la dentine calcifiée est plus mince chez le rat carencé.

Au niveau des plis de la paroi labiale (Figures 16 et 17) la formation de dentine interglobulaire est évidente. La structure tubulaire n'est que peu touchée; seul le trajet des tubuli est modifié par des plissements de la paroi (Figure 16).

Tel n'est pas le cas au niveau des vésicules (Figures 18 et 19). Toute structure tubulaire a disparu. Seule une couche de dentine de type ostéodentinaire tapisse le fond de la vésicule. Cette couche est sans limite nette et sa calcification est irrégulière. L'interpénétration des tissus fait penser à un état cancéreux.

La structure de la trame organique est quelquefois perturbée près de la jonction dentine-émail (Figure 20). Il se forme alors des lacunes comblées par un tissu conjonctif lâche. Cette zone n'est pas calcifiée (Figure 21). Il s'agit de deux rats âgés respectivement de 321 et 170 jours et carencés pendant 291 et 140 jours.



FIGURES 16-17 Aspects histologique et microradiographique de l'accordéon apical. x 100. Figure 16: Coupe histologique réalisée sur l'incisive d'un rat du groupe IV, âgé de 238 jours et carencé pendant 209 jours. e, espace de l'émail. d, dentine. Figure 17: Microradiographie de l'incisive d'un rat du groupe IV, âgé de 321 jours et carencé pendant 291 jours.

FIGURES 18-19 Aspects histologique et microradiographique des vésicules, apparaissant sur la paroi labiale de l'incisive. x 65. Figure 18: Coupe histologique montrant une vésicule chez un rat du groupe I, âgé de 76 jours et carencé pendant 46 jours. m, matrice de l'émail. d, dentine. x, artefact dû au décollement de la matrice de l'émail. Figure 19: Microradiographie de l'incisive controlatérale chez le même rat que celui de la figure 18.

DISCUSSION

La comparaison des données histologiques et microradiographiques permet de formuler quelques considérations à propos des effets d'une carence en vitamine A prolongée sur le processus de minéralisation de l'émail et de la dentine de l'incisive du rat blanc.

Email.—Wolbach et Howe¹ ont les premiers décrit un émail dépigmenté et friable chez le rat et le cobaye carencés en vitamine A. Leur étude histologique ainsi

que celle de Schour et coll.² mirent en évidence des altérations de l'organe de l'émail se traduisant par une atrophie précoce de la couche papillaire, débutant dans la partie antérieure, puis s'étendant à l'épithélium adamantin dans son ensemble y compris les améloblastes. Wolbach et Howe¹ pensaient que cette atrophie devait finalement atteindre le "pôle formatif". Ce fait n'a jamais été démontré. Au contraire, il a été observé ici la présence d'un organe de l'émail complet sur une incisive qui a cessé sa croissance en longueur après une carence en

vitamine A prolongée. Conne, Körner et Baume⁵ ont remarqué que la diminution du volume du stratum intermedium de la boucle cervicale était la première manifestation de la carence. C'est à ce niveau que la lésion biochimique de l'avitaminose A semble devoir être cherchée. Ils ont montré également à cet endroit une désorganisation et une disparition intermittente de la membrane basale séparant le mésenchyme pulpaire de l'épithélium interne de l'organe de l'émail.

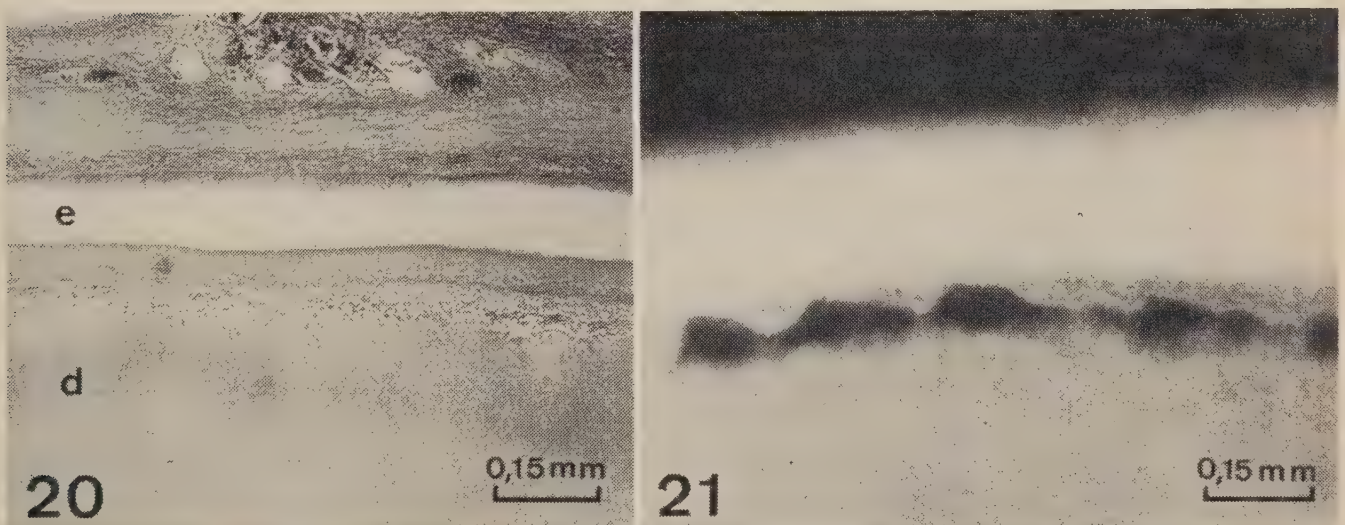
Les améloblastes se sont révélés plus résistants à la carence que ne l'avaient laissé supposer les auteurs précédents. Une atrophie précoce de ces cellules a été observée dans la moitié apicale de l'incisive.⁵ En raison du ralentissement de l'éruption lors d'une déficience en vitamine A, cette atrophie pourrait être moins rapide que l'image histologique statique nous le fait penser.

Une diminution de l'épaisseur et une perturbation de la structure prismatique ont été constatées au niveau de la matrice de l'émail. Ces dérangements de la structure prismatique paraissent toujours dans la zone de la matrice en voie de calcification. Une fois l'émail calcifié, les prismes ne sont plus visibles qu'au niveau de zones hypominéralisées; ils semblent alors toujours réguliers.

Les zones d'hypominéralisation, différentes des hypoplasies, apparaissent sur les microradiographies comme des taches radio-transparentes de nombre et d'étendue variable; elles touchent principalement la couche médiane. Leur contour et leur forme ne sont pas précis à l'exception de l'hypocalcification représentée par une ligne traversant obliquement la couche médiane de l'émail. Il est à noter que l'hypominéralisation est en rapport avec une altération de la couche papillaire. Les microradiographies ont montré que les sels minéraux pouvaient se cristalliser au niveau de la lésion de l'épithélium adamantin et rester "suspendus" au-dessus de l'émail.

Une autre lésion fréquente de l'émail se présente sous la forme d'hypoplasies. Elles se traduisent principalement par des défauts de la surface et sont généralement associées à une hypominéralisation de la couche médiane sous-jacente. La présence de plis isolés ne touchant que l'émail est peu fréquente. La zone entourant ce pli est toujours hypocalcifiée bien que la structure prismatique ne paraisse pas particulièrement dérangée à ce niveau.

En résumé, les altérations de l'émail sont représentées par des modifications de la structure prismatique de la matrice,



FIGURES 20-21 Aspects histologique et microradiographique des lacunes dentinaires pouvant apparaître au voisinage de la jonction dentine-émail. x 100. Figure 20: Coupe histologique effectuée sur l'incisive d'un rat du groupe IV, âgé de 321 jours et carencé pendant 291 jours. e, espace de l'émail. d, dentine. Figure 21: Microradiographie d'une lésion identique chez un rat du groupe II, âgé de 170 jours et carencé pendant 140 jours.

par l'apparition de zones d'hypominéralisation et d'hypoplasies. Cependant, tous ces changements sont intermittents. Aucune altération ne paraît s'établir d'une façon continue parallèlement à la carence. Seule une mesure quantitative nous renseignera sur une modification possible du taux de calcification de l'ensemble de l'émail.

Dentine.—En ce qui concerne la dentine, la lésion biochimique de l'avitaminose A se trouve au niveau des odontoblastes.⁵ Une atrophie de ces cellules sur les parois de dentine recouvertes de ciment et plus tardivement sur celles recouvertes d'émail a été décrite par les auteurs précédents. Des troubles de calcification tels qu'un retard de la minéralisation de la prédentine et la formation de dentine interglobulaire ont également été rapportés.^{1,2,5} Il faut noter qu'une augmentation des espaces interglobulaires a été observée dans la dentine du rat gonadectomisé.⁶ L'élargissement de la prédentine cause un retard de la calcification de l'extrémité apicale des parois de dentine. C'est ce retard de calcification qui induirait les plissures et les déformations apicales décrites par Conne, Körner et Baume.⁵

Ces altérations sont confirmées par le présent travail. La structure tubulaire de la dentine ne paraît que peu troublée. Ou

alors elle disparaît complètement pour faire place à une dentine de type ostéodentinaire comme celle qui marque le fond des vésicules ou à des plages de tissu conjonctif lâche non calcifié, telles qu'on en rencontre au voisinage de la jonction dentine-émail.

Ce travail a bénéficié du subside no 4685 du Fonds National Suisse.

Les expériences diététiques de ce travail, dont nous devons la réalisation au Dr W. F. Körner, ont été effectuées dans les laboratoires de recherches de la Maison Hoffmann-La Roche à Bâle (Directeur: Prof. O. Wiss).

Le Dr L. J. Baume est Directeur de l'Institut de Médecine dentaire de l'Université de Genève, Service des traitements dentaires conservateurs.

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use of aminocaproic acid in oral surgery for haemophiliacs

report of case

L. I. Gaum, DDS, Scarborough, Ont.

Aminocaproic acid, which resembles lysine in structure, lacking the alpha-amino group of the latter compound, is used in acute life-threatening situations where haemorrhage results from overactivity of the fibrinolytic system. It is relatively non-toxic and is excreted in practically unmetabolized form. It acts by inhibiting the activation of plasminogen and to a lesser extent, inhibits the enzyme plasmin from hydrolyzing the fibrin clot. In the case described, aminocaproic acid was used in a haemophiliac where postoperative bleeding would otherwise have resulted from overactivity of the fibrinolytic system. ¹

L'acide aminocaproïque, qui par sa structure ressemble à la lysine, moins le groupe alpha-aminé de ce dernier composé, est employé dans les cas où la vie du patient est mise en danger, lorsque l'hémorragie provient d'une suractivité du système fibrinolytique. Ce produit est relativement non-toxique et est excrété sous une forme pratiquement non-métabolisée. Il agit en inhibant l'activation du plasminogène et, à un moindre degré, il empêche l'enzyme plasmine d'hydrolyser le caillot de fibrine. Dans le cas décrit ici, l'acide aminocaproïque a été utilisé pour un hémophile chez qui une hémorragie post-opératoire aurait autrement résulté de la suractivité du système fibrinolytique.

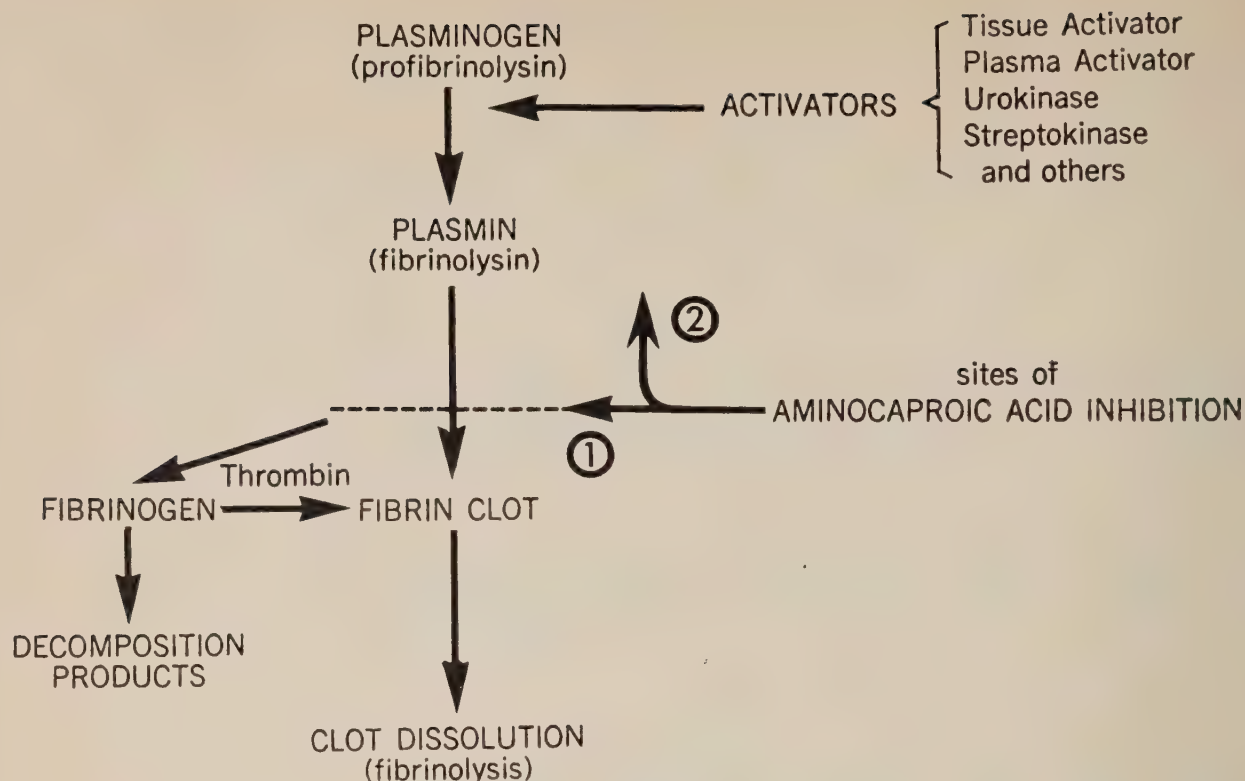


FIGURE 1 Clot lysis.

Insufficient antihaemophilic factor VIII is not the only cause of postoperative haemorrhage in haemophiliacs. There is considerable evidence that another interference with clot formation can also precipitate bleeding. Such interference may be caused by various fibrinolytic agents that are normally present in the body. Elevated fibrinolytic activity has been observed in bleeding episodes in haemophiliacs for quite some time. However, the accompanying hyperfibrinolysis was usually regarded as coincidental and relatively unimportant. Several agents other than antihaemophilic globulin have beneficial effects in haemophiliacs.¹ One substance with prophylactic value is aminocaproic acid, an important antifibrinolytic agent.

Abe et al² found that fibrinolytic activity was suppressed when they administered 3-10 Gm. a day orally to patients with deficiency of factor VIII or IX. They also observed a considerable reduction in the frequency, amount and duration of bleeding and pain.

McNicol et al³ reported a case of a 22 year old male with clinically severe haemophilia A. This patient had severe haematuria for one week despite the fact

that he was receiving fresh plasma. The haematuria ceased abruptly when he was given 20 Gm. aminocaproic acid orally over a 30 hour period.

HISTORY, CHEMISTRY

A new method of amine synthesis, referred to as the 'Gabriel Synthesis,' made possible the first production of aminocaproic acid in 1899. In 1948 Okamoto⁴ began to search for a chemical with antiplasmin activity. In 1953 he discovered that aminocaproic acid inhibits the fibrinolytic activity of plasma in vitro.

Aminocaproic acid ($\text{NH}_2 \text{CH}_2 \text{CH}_2 \text{CH}_2 \text{CH}_2 \text{CH}_2 \text{COOH}$) is a synthetic monoaminocarboxylic acid closely related to lysine ($\text{NH}_2 \text{CH}_2 \text{CH}_2 \text{CH}_2 \text{CH}_2 \text{CH}_2 \text{CH}(\text{NH}_2) \text{COOH}$). It lacks the alpha amino group present in lysine; otherwise the molecular structure of both substances is similar.

Sherry et al⁵ have reviewed fibrinolysis and fibrinolytic activity. Serum contains plasminogen (profibrinolysin), a naturally occurring precursor of the enzyme plasmin (fibrinolysin), which can hydrolyze fibrin. Activators in tissue,

plasma, urine and bacteria, as well as certain chemicals convert the plasminogen to plasmin. Plasmin is a tryptic-like proteolytic enzyme capable of hydrolyzing a number of other proteins as well as fibrin.

MECHANISM OF ACTION

When activated, the plasminogen-plasmin enzyme system lyses fibrin clots as illustrated in Figure 1.

Aminocaproic acid inhibits fibrinolysis at two sites: (1) through antiplasmin activity, thereby inhibiting the enzyme plasmin from hydrolyzing the fibrin clot (fibrinolysis), and (2) through inhibition of plasminogen activator, thereby blocking the conversion of plasminogen to plasmin.

A considerable amount of work has also been done on the effect of aminocaproic acid on postextraction healing in hamsters. Doku, Shklar and Bugbee⁶ found that topically applied aminocaproic acid promotes wound healing by preventing early lysis of the clot. This is accomplished either by accelerating the organization of the blood clot and maintaining it in the socket, or by anti-inflammatory action which promotes tissue resistance to bacterial invasion.

ABSORPTION, DISTRIBUTION AND EXCRETION

Absorption and distribution is rapid following oral and intravenous administration. A major portion of the compound is recovered unmetabolized in the urine. Because the kidney is the primary and possibly the only organ to excrete the drug, the compound may accumulate in patients with decreased renal function.

REPORT OF CASE

A 23 year old white male was admitted to hospital with a history of haemophilia. Dental examination revealed the presence of an impacted right mandibular third molar in horizontal position. Routine

blood examination revealed delayed clotting and partial thromboplastin times. Aminocaproic acid was administered intravenously 24 hours prior to the operation. The patient received a 5 Gm. initial dose added to a 5 per cent dextrose and water infusion. Thereafter, a 1 Gm. intravenous infusion was administered every hour. This was continued on the day of surgery and for one day thereafter. Subsequently, the patient received oral doses amounting to 500 mg. every three hours for five days.

Under general orotracheal anaesthesia utilizing nitrous oxide, oxygen and halothane, a short 0.5 cm. incision was made distal to the partially erupted crown of the right mandibular third molar. A limited mucoperiosteal flap was reflected, exposing the underlying bony cortex and a portion of dental crown. Approximately 2 mm. of overlying bone were removed with a Hall drill in the region of the buccal and distal aspects of the dental crown and, after appropriate sectioning, all fragments were removed from the socket.

After gentle debridement the flap was replaced and the wound was packed with oxidized cellulose gauze for purposes of haemostasis. A moulded dental compound splint was then fabricated and a small amount of topical thrombin was applied between the splint and the packing within the socket.

The patient tolerated the operation and the anaesthetic well and left the operating room in good condition.

He was examined five hours later and again on the following morning. The compound splint was well seated in the third molar area and there was no evidence of bleeding. The splint was removed hours postoperatively and, again, there was no bleeding from the socket area. A small amount of submandibular and buccal oedema was present at this time. The patient was quite comfortable and experienced very little pain. He was discharged on the second day, told to continue with the oral aminocaproic acid and asked to report to the hospital clinic should any bleeding occur. One week later the patient was re-examined. He was well and there was no bleeding oedema or pain at the time.

DISCUSSION

Aminocaproic acid gives excellent results in those haemophiliacs where bleeding emanates primarily from overactivity of the fibrinolytic system. One can expect minimal or no postoperative haemorrhage in such cases.

An added advantage of this agent is that it eliminates the risk of circulatory overload and cardiac failure. If aminocaproic acid can control postoperative haemorrhage, replacement therapy may be unnecessary. In those cases where bleeding is due to faulty clot formation, aminocaproic acid alone is insufficient and it is then necessary to combine local agents to achieve haemostasis. Aminocaproic acid is nevertheless very useful for controlling postoperative haemorrhage in haemo-

philia and many major medical centres in the United States use it routinely in haemophiliacs undergoing oral surgery.

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1355 Victoria Park Avenue

How pure, how beautiful, how fine
 Do teeth on television shine!
 No flutist flutes, no dancer twirls,
 But comes equipped with matching pearls.
 Gleeful announcers all are born
 With sets like rows of hybrid corn.
 Clowns, critics, clergy, commentators,
 Ventriloquists and roller skaters,
 M.C.s who beat their palms together,
 The girl who diagrams the weather,
 The crooner crooning for his supper —
 All flash white treasures, lower and upper.
 With miles of smiles the airwaves teem,
 And each an orthodontist's dream.

'Twould please my eye as gold a miser's —
 One charmer with uncapped incisors.

—Phyllis McGinley.

coincidental laryngospasm and duodenal perforation during general anaesthesia for exodontia

report of case

A 24 year old male patient with a negative medical history received an outpatient general anaesthetic for removal of a tooth. During induction with methohexital he had a laryngospasm which was readily terminated with succinylcholine. Upon awakening he experienced severe persistent abdominal pain. The pain was caused by a duodenal ulcer which had perforated during the laryngospasm. This diagnosis was confirmed at subsequent surgery.

Un patient de 24 ans, sans antécédents médicaux, fut soumis à l'anesthésie générale pour l'extraction d'une dent. Au cours de l'induction au methohexital, il présenta un laryngospasme promptement maîtrisé à l'aide de succinylcholine. A son réveil, il se plaignit d'une douleur abdominale violente et persistante. La douleur provenait d'un ulcère du duodénum qui avait perforé pendant le laryngospasme, diagnostic que confirma l'opération subséquente.

Howard Phillips, DDS, Alan Brown, DDS,
FRCD(C) and I. H. Koven, MD,
FRCS(C), FACS, Toronto, Ont.

A 24 year old male patient was referred to our office for surgical removal of a mandibular right third molar under general anaesthesia. His past medical history and physical examination were negative. The patient weighed 160 pounds and was of average body build. He had taken nothing by mouth for the previous 12 hours.

A venipuncture was made in the left antecubital fossa with a 22 gauge needle on a Luer-Lok syringe and 0.6 mg. atropine were injected intravenously. Disconnecting the syringe, a vena tube was attached to the needle and taped to the arm. The tube led from a reservoir bottle containing 1 per cent methohexital sodium. Following a 1 ml. test dose, the patient was given an induction dose of 8 ml. methohexital. As he started to lose his lid reflex we began to administer a 50/50 nitrous oxide-oxygen mixture through a nasal mask. During the induction he developed severe laryngospasm. We immediately shut off the gas and grasped the mandible and the tongue, pulling both forward and checking the mouth and pharynx for evidence of any excessive secretions. We then tried to administer pure oxygen through a full face mask but encountered great difficulty in forcing the gas through the adducted vocal cords. Chest movements gradually diminished as the spasm failed to subside. Disconnecting the vena tube, 40 mg. of succinylcholine were administered through the already patent vein. This quickly broke the spasm. We continued to give the patient pure oxygen, manually compressing the rebreathing bag until normal respirations resumed. This pressure was maintained until he responded to commands. Total time from the beginning of the induction dose to recovery was about four minutes.

Upon awakening, the patient complained about severe abdominal pain. He was taken to the recovery room and observed closely until he recovered fully from the anaesthetic. During this time the pain became unbearable and he requested some means of relief. His breath and heart sounds were normal but he had a rigid board-like abdomen. The pain radiated over the complete abdomen. A

physician, called in to examine the patient, could only confirm our previous clinical findings. During this examination the patient vomited copious amounts of clear fluid but this did not diminish the pain.

At first we attributed the pain to gas forced into the stomach during manual compression of the rebreathing bag. But this had to be ruled out when the pain failed to subside after vomiting. Post-succinylcholine muscle aches, aspiration and coronary occlusion were also considered and then eliminated. As the pain did not abate, the patient was taken to the New Mount Sinai Hospital emergency room for observation and thorough medical investigation.

The emergency room physician could not discover a cause for the pain. Chest and abdominal flat plate radiographs were negative. The patient was given 25 mg. anileridine (Leritine) IM. and about one hour after initiation of the anaesthetic the abdominal pain began to ease. It was still constant but bearable. The patient was kept under observation in the emergency room for another two hours. A new set of flat plate radiographs of the abdomen showed free air under the diaphragm indicative of a perforated duodenal ulcer. Questioned by the attending surgeon (I.H.K.), the patient admitted that he suffered occasional mild abdominal discomfort after meals which disappeared when he drank milk. He had attached no significance to this and had therefore answered negatively when asked about stomach discomfort during his pre-anaesthetic interrogation.

He was taken to the operating room where an epidural anaesthetic was administered. Opening the peritoneal cavity with a right paramedian rectus splitting incision, about 200 ml. of purulent fluid were aspirated from in front of the liver and Morrison's pouch. The perforation was identified on the anterior wall of the first part of the duodenum. It was closed with O chromic catgut and an omental patch was sutured in place. A corrugated rubber drain was inserted in Morrison's pouch. Finally, the incision was closed in layers with running chromic catgut and the skin was sutured with interrupted

vertical mattress and regular sutures of 3-0 black silk. The patient left the operating room in good condition, having tolerated the procedure well. His subsequent recovery was uneventful.

DISCUSSION

Laryngospasm during general anaesthesia is caused by pharyngeal, laryngeal or peripheral stimulation during light planes of anaesthesia and most usually occurs during induction. Improper use of some anaesthetic agents can cause spasm. Laryngospasm can cause varying degrees of partial to complete airway closure. If closure is only partial, the patient can be carried for a moment or two by holding the tongue and mandible forward, adequately aspirating any secretions and manually compressing the rebreathing bag while supplying pure oxygen. If spasm persists or if laryngeal closure is so tight that adequate oxygenation is impossible, a muscle relaxant such as succinylcholine should be administered intravenously to relax the constricted airway. Vital signs must be closely watched during laryngospasm. It is most important to remember that only two minutes of cerebral anoxia can cause permanent brain damage.

In this case we were unable to ascertain the cause of the spasm. There was no known oral or airway stimulation which could have initiated the laryngospasm. Drug-induced spasm can be ruled out. Perhaps the spasm could have been caused by stimulation from sudden perforation of the duodenal ulcer and the resulting abdominal pain, but this is pure speculation.

Patients with duodenal and gastric ulcers usually give a typical history of peri-

odic attacks of abdominal pain. If the ulcer is acute there may be only a short history of pain or none at all. Some patients have had no previous indigestion. Morbidity and mortality vary directly with the promptness of treatment. Our patient had an uneventful postoperative recovery because of the prompt diagnosis and treatment.

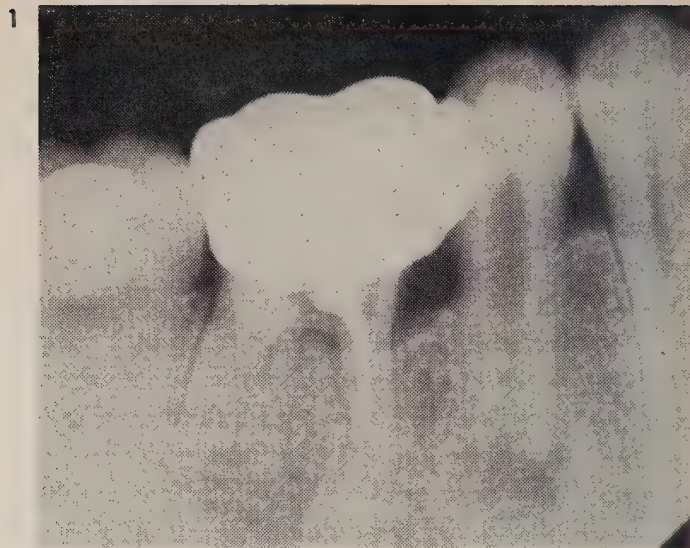
When a patient presents with a pertinent medical history but has no established diagnosis and is not under the supervision of a physician, he should be referred to a physician for diagnosis before administering a general anaesthetic or before beginning surgery. Only after diagnosis of the medical problem can proper pre-operative and pre-anaesthetic precautions be taken to obviate any operative or anaesthetic complications.

SUMMARY

An interesting diagnostic problem arising from coincidental perforation of a duodenal ulcer during laryngospasm in an oral surgeon's office has been reported. The spasm was relieved by succinylcholine. The other complication was treated by abdominal incision, evacuation of purulent fluid from the peritoneal cavity and closure of the duodenal perforation.

Doctor Phillips is an attending oral surgeon at the New Mount Sinai Hospital, Toronto. Doctor Brown is chief of oral surgery at the New Mount Sinai Hospital, staff dental surgeon at Toronto General Hospital and associate in the Department of Oral Surgery, Faculty of Dentistry, University of Toronto. Doctor Koven is a staff surgeon at the New Mount Sinai Hospital and instructor in the Department of Surgery, Faculty of Medicine, University of Toronto.

145 Sheppard Avenue East



induction of foraminal closure

report of case

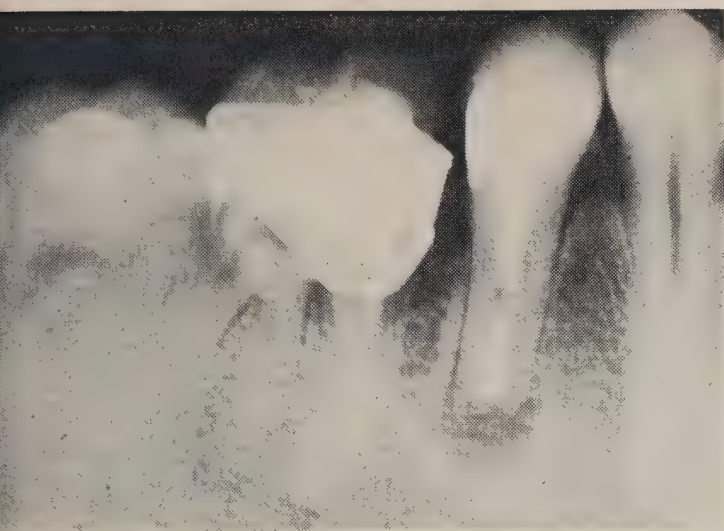
H. J. Van Hassel, DDS, MSD and
E. Natkin, DDS, MSD, Seattle,
Washington

The authors report foraminal closure and resolution of a periapical lesion adjacent to a divergent apical foramen in a bicuspid of a 37 year old patient. The result was achieved two years after performing root canal therapy and obturation with a calcium hydroxide-camphorated monochlorophenol mixture.

Les auteurs rapportent la fermeture du foramen et la résolution d'une lésion péri-apicale adjacente au foramen apical divergent d'une prémolaire d'un patient de 37 ans. Ce résultat fut atteint deux ans après avoir effectué un traitement radiculaire et une obturation avec un mélange d'hydroxyde de calcium - monochlorophénol camphré.

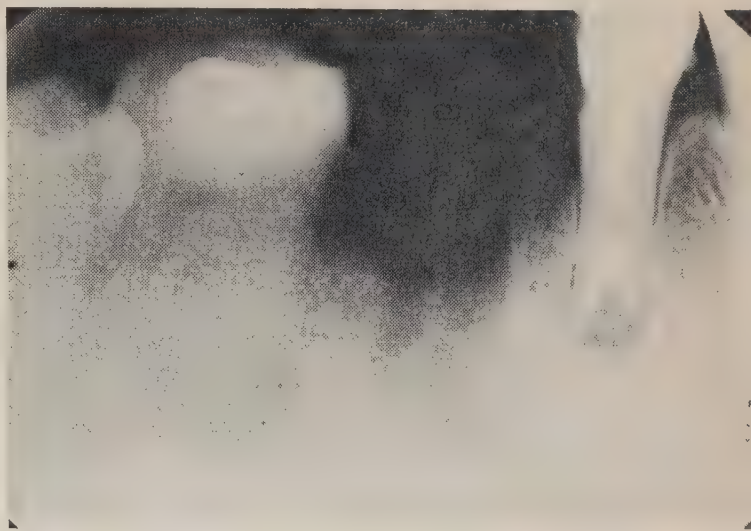
Permanent teeth may lose their vitality before the root apex is completely formed. If the walls of the apical portion of the root canal diverge, conventional obturation may be impossible because control of filling materials is rendered difficult by the large apical opening. An alternative method of treatment, surgical retrofilling, may also be contra-indicated by psychological considerations or when root apices approximate structures such as the mental foramen or mandibular canal.

In recent years, successful conservative treatment of pulpless teeth with widely divergent apical foramina has been facilitated by using calcium hydroxide pastes.¹⁻⁴ Root development associated with the use of calcium hydroxide has previously been reported only in young individuals. The present report describes a case of induced foraminal closure in a bicuspid tooth of an adult patient.



2

FIGURE 1 Pulpless mandibular second bicuspid with wide open apical foramen and adjacent periapical lesion.



3

FIGURE 2 The root canal of the second bicuspid has been filled with a mixture of calcium hydroxide and camphorated monochlorophenol.

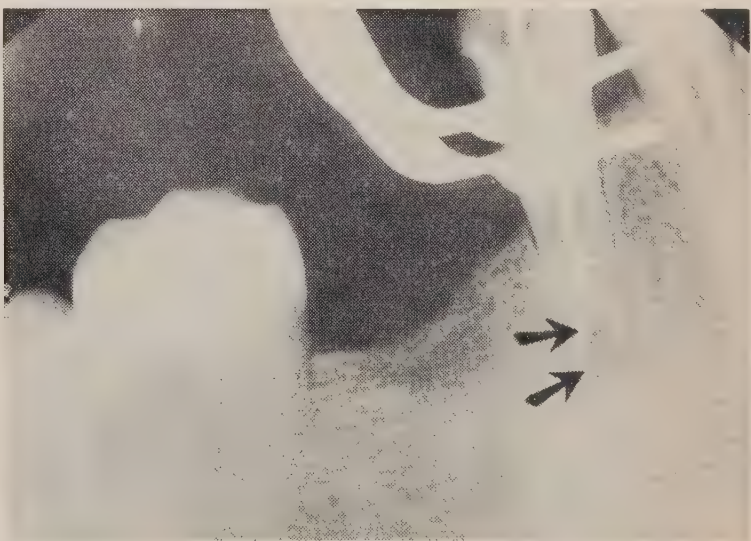


4

FIGURE 3 One year after treatment the periapical lesion is diminished in size and the calcium hydroxide mixture is partially resorbed from the apical end of the canal.

FIGURE 4 Two years after treatment the lesion is further reduced in size and two apical bridges are present in the root canal.

FIGURE 5 A reamer inserted into the root canal cannot penetrate beyond the level of the more coronal of the two apical bridges.



5

CASE REPORT

A 37 year old patient whose previous dental treatment had been performed in the Far East was referred to us for evaluation. A radiograph taken at the time of examination (Figure 1) showed a radiolucent periapical lesion adjacent to the widely divergent apical foramen of the mandibular right second bicuspid. The ra-

diographic appearance of this tooth was consistent with arrested root development and was not thought to have resulted from resorption of a normally calcified root. The involved tooth was asymptomatic and did not respond to pulp tests. Access to the pulp chamber confirmed that the tooth was pulpless. A No. 120 reamer could penetrate to the periapical tissues without resistance. Instrumentation of the canal was completed at this time. At the following visit, a viscous mix of calcium hydroxide with just sufficient camphorated monochlorophenol to act as a binder was used to fill the root canal. Figure 2 shows the root canal after filling. The relatively radiopaque calcium hydroxide mixture appears confined to the canal.

A radiograph taken one year later is shown in Figure 3. The periapical lesion is smaller and the calcium hydroxide mixture appears resorbed from several millimetres of the apical portion of the canal. A radiograph taken two years after treatment (Figure 4) shows further reduction in the size of the lesion and the appearance of two apical bridges in the root canal. The occurrence of double bridging following calcium hydroxide root canal filling has been reported previously.³ After removal of the remaining calcium hydroxide mixture from the canal, a No. 60 reamer inserted into the canal encountered resistance at the level of the more coronal of the two bridges and could not penetrate further apically (Figure 5). No pain or bleeding was produced at this level.

DISCUSSION

The use of calcium hydroxide to stimulate further root development is still an empirical form of treatment. Controlled clinical studies are desirable to determine the contribution of various components of calcium hydroxide mixtures. Histological examination of the calcified substance formed at the root end is likewise necessary. The mechanism of induced root development also requires investigation. Calcium hydroxide may promote calcification by providing a high concentration

of calcium ions in the periapical tissue. However, the removal of necrotic material from the root canal and the stimulus of instrumentation may be sufficient to initiate continued root development in many instances.⁵

The apparent formation of calcified apical bridges, in the case reported here, suggests that calcium hydroxide root induction procedures may be useful in older patients as well as children. However, a successful result may be less likely because arrested root development in adults is generally associated with early pulp devitalization and long-standing chronic inflammation. The potential for continued root formation may be considerably diminished in such cases. Nevertheless, induction procedures for adults warrant further trial in view of the difficulties inherent in endodontic treatment of teeth with incompletely developed roots.

SUMMARY

Foraminal closure was obtained in a pulpless adult bicuspid tooth whose root was incompletely developed. Closure was observed following treatment with a mixture of calcium hydroxide and camphorated monochlorophenol. Calcium hydroxide root induction procedures may prove to be a useful adjunct to endodontic therapy in adults as well as younger patients.

Doctor Van Hassel is with the US Federal Health Programs Service at the US Public Health Service Hospital, Seattle, and is clinical assistant in the Department of Endodontics, University of Washington. Doctor Natkin is associate professor and chairman, Department of Endodontics, University of Washington.

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abstracts

School Fluoridation Studies in Elk Lake, Pennsylvania and Pike County, Kentucky: Results after Eight Years

H. S. Horowitz, S. B. Heifetz, F. E. Law and W. S. Driscoll. Amer. J. Public Health 58:2240, 1968.

Since 1958, fluoride has been added to the water supplies of rural schools in Pike County, Kentucky, and Elk Lake, Pennsylvania, at levels of 3 ppm and 5 ppm respectively. Fluoride levels greater than the optimum for community fluoridation were used in an attempt to approximate the total fluoride intake of children who drink fluoridated water on a full-time basis.

Interim dental examinations, conducted in 1966, showed that the level of dental caries for children who had continually attended the study schools was substantially and significantly lower than the caries scores of children enrolled in the schools at the time school water fluoridation commenced. Compared with baseline findings, study children in Pike County experience overall reductions in average number of DMF teeth of 32.8 per cent and in Elk Lake, 33.9 per cent. Results after eight years of school fluoridation support interim data obtained after four years that indicate the procedure appreciably reduced caries prevalence.

Data on fluorosis demonstrated unequivocally that the levels of fluoride added to the schools' water supply did not produce any objectionable fluorosis. Only 0.13 per cent of cuspids, bicuspid and second molars, teeth that were still calcifying when initially exposed to the higher levels of fluoride at school, had positive signs of fluorosis. The few teeth affected were all classified as very mild.

Evaluation of Complete Dentures Lined with Resilient Silicone Rubber

J. B. Woelfel and G. C. Paffenbarger. J. Amer. Dent. Ass. 76:582, 1968.

Twenty-four complete dentures that had been in use for at least seven years were relined with a soft, resilient silicone rubber

(Silastic 390). The liner is not a cure-all for denture problems as has been reported in the literature. Although its routine use is not recommended, it has some limited applications in patients with special dental problems.

Clinical Effectiveness of Phosphate-Enriched Breakfast Cereals on the Incidence of Dental Caries in Adults: Results after One Year

R. A. Carroll, G. K. Stookey and J. C. Muhler. J. Amer. Dent. Ass. 76:564, 1968.

Sodium dihydrogen phosphate was added to ready-to-eat breakfast cereal and was evaluated for its ability to reduce dental caries in adults residing in a nonfluoride area. Reductions in dental caries incidence of 57.1 per cent and 24.1 per cent in DMF teeth and DMF surfaces, respectively, were noted after six months, and reductions of 42.3 per cent and 21.8 per cent in DMF teeth and DMF surfaces, respectively, were noted after one year.

Clinical Effectiveness of Stannous Hexafluorozirconate as an Anticariogenic Agent

J. C. Muhler, David Bixler and G. K. Stookey. J. Amer. Dent. Ass. 76:558, 1968.

Results of two independent clinical studies with children who used a new fluoride compound, stannous hexafluorozirconate, indicate that the effectiveness of this new agent may be significantly greater than that of stannous fluoride. One-minute topical applications of stannous hexafluorozirconate resulted in caries reductions in DMF teeth and DMF surfaces of 93 per cent and 96 per cent and of 81 per cent and 76 per cent, respectively, in the two studies.

The Caries Inhibiting Effect of Acidulated Phosphate-Fluoride Chewable Tablets: A Two Year Double Blind Study

P. F. DePaola and Martin Lax. J. Amer. Dent. Ass. 76:554, 1968.

One hundred and thirty children in the first, second and third grades who received a chewable acidulated phosphate-fluoride tablet daily experienced an overall caries reduction of 20-23 per cent in permanent teeth at the end of two school years when compared with 136 children in the control group. The treated group had a two-to-one advantage in caries reduction in the teeth erupting during the course of the study.

Prevalence of Arch Collapse and Malocclusion in Complete Unilateral Cleft Lip and Palate

Samuel Pruzansky and Howard Addus.
Trans. Europ. Orthod. Soc. 1967.

In a series of previous papers, the senior author and his associates detailed their criticisms of presurgical maxillary orthopaedics and primary bone grafting. They held that advocates of such procedures were in effect selling insurance against a condition for which they had no actuarial table, and where the premium charged was inordinately high. Two questions were posed: (1) Is collapse of the arch an inevitable sequel to repair of the lip and palate? If not, what is the frequency of such collapse? Correlatively, what is the prevalence of malocclusion among the collapsed and non-collapsed cases? (2) If some arches collapse and others do not within the experience of a single school of surgeons utilizing essentially similar methods of repair, what are the factors determining ultimate arch form?

Serial casts and cephalometric films of 106 patients were reviewed to determine variation in arch form prior to lip repair and the changes following repair of the lip and palate. In 58 of these cases, serial records were available following palatal surgery and including the full deciduous dentition. The report detailed the variety of arch forms encountered and their relative frequency. The prevalence of malocclusion, particularly crossbite, was shown to be substantially less than that reported by others. Since none of the cases in the present survey was subjected to pre- or postsurgical maxillary orthopaedics or bone grafting, and as the results were superior to those reported for cases where these procedures were employed, the merit of such techniques was questioned. The factors determining collapse of the arch, in the population under study, was shown to include the following: (1) size and shape of the alveolar process, (2) size and configuration of the palatal shelves, (3) size and shape of the inferior turbinate on the side of the cleft, and (4) size and shape of the nasal septum.

Periodontic Tissue Changes in Response to High Artificial Crowns

W. W. Kemper, J. F. Johnson and G. Van Huysen. *J. Prosth. Dent.* 20:160, 1968.

Stainless steel shell crowns were placed in 2 mm. hyperocclusion on the mandibular second premolar in a group of three dogs and in a similar group they were placed on the two maxillary central incisors. For control an orthodontic appliance was placed in a third group of three dogs which depressed the first mandibular molar with a 187 Gm. force. All three groups showed the

same histological picture of bone absorption on the pressure side of the periodontic ligament and bone apposition on the tension side with hyalinization of the periodontic ligament and undermining absorption of the adjacent bone in areas of severe pressure. These areas healed without an inflammatory exudate or scar tissue. The periodontic reaction to artificially increased occlusal forces should not be called traumatogenic occlusion, periodontitis, or periodontosis. Large occlusal defects should be equilibrated, but the periodontium will adjust itself to invisible but tactile abnormalities.

Occlusion and Dental Profile with Complete Bilateral Cleft Lip and Palate

C. F. Handelman and Samuel Pruzansky.
Angle Orthodont. 38:185, 1968.

Twenty-six patients with bilateral complete cleft lip and palate who had lip and palate repair were analysed for several aspects of dental occlusion. None of these patients experienced presurgical orthopaedics, bone grafting or preliminary resection and setback of the premaxilla. Dental casts and cephalometric records were analysed at the age of four years. The major problem was the protrusion of the premaxilla. In six of these cases surgical removal or setback was necessary. Only one patient had lingual positioning of the maxillary incisors. The inclination of the maxillary incisors was variable. Molar crossbite was present in 31.9 per cent of the cases, but was not considered severe. The interdental width of the deciduous mandibular molars was narrower than that recorded in a noncleft sample.

A Two Year Comparison of Hand and Electric Toothbrushes

A. J. W. McKendrick, L.M.H. Barbenel and W. D. McHugh. *J. Periodont. Res.* 3:24, 1968.

Following examination for oral hygiene and calculus index (Greene and Vermillion, 1960) gingivitis and periodontitis (Russell, 1956), a gingival recession index (related in mm. by the investigators) and dental caries (DMFS of Klein, Palmer and Knutson, 1938), 103 university students were divided into four groups: handbrush uninstructed (control), hand instructed, electric brush uninstructed, and electric instructed. Examinations were made at 3, 6, 12 months and at completion (2 years). There were no statistical differences shown in oral debris, calculus, gingivitis, periodontitis or recession, which led to the conclusion that the electric brush is not superior to the handbrush when used by intelligent, dentally-oriented young adults.

book reviews • analyse

Oral Roentgenographic Diagnosis

E. C. Stafne. Ed. 3. Philadelphia, W. B. Saunders Company, 1969. 427 p. Illus. \$19.45

Modifications in the third edition of this now familiar text are apparent even on a superficial perusal. The most obvious alteration has been a change in format to a two column page set-up. As a result, the material is more readable and has greater eye appeal.

An entirely new chapter on "Roentgenographic Physics" by M. D. Williams deals with x-ray production, absorption, scatter and image formation completely and succinctly. This addition, together with the existing chapter on "Health Physics" by the same author, provides complete coverage of all the physical aspects of radiology.

The chapter on "Injuries to the Teeth and Jaws" has been completely revised as has one-third of the 120 illustrations used in this section. The radiographic reproductions meet the high standard of quality set in previous editions. A logical extension of this revision is the expansion of the chapter on techniques to include suitable extra-oral views for optimum identification of fractures. Techniques for sialography, cephalometry and radiographs of the temporomandibular joint are also provided for those who wish to extend the scope of their radiographic examinations.

The author during his long association with the Mayo Clinic has had access to a great wealth of clinical material. This is evident in the chapter on "Roentgenographic Manifestations of Systemic Disease" which has been rearranged for a more orderly and logical presentation. It continues to be the most noteworthy chapter in the book. Syndromes associated with early exfoliation of teeth and the multiple cysts of the jaw-based cell naevus have been added.

Unusually complete references at the end of each chapter provide a valuable guided reading list and enhance the usefulness of the book for those wishing to pursue particular subjects in extenso. The adequate index makes information retrieval a frustration-free experience.

Stafne's book is recommended for the reader who seeks coverage of all aspects of dental radiology in a single volume. Although the new edition has been re-styled, the few basic changes may be insufficient to motivate present owners to change models. However, the book will appeal to anyone whose library is deficient in this important aspect of diagnosis.

D. W. Stoneman

Facial Pain

C. C. Alling, III. Philadelphia, Lea & Febiger, 1968. (Available from The Macmillan Company of Canada Limited, Toronto) 284 p. Illus. \$16.50

In his book *Headache and Other Head Pain* H. G. Woolfe stated that "headache as a subject for investigation has fared badly through being divided among specialists." Alling also finds that a wide variety of basic sciences and clinical disciplines are necessary to cover the field. His text brings together modern concepts from the following areas: physiology, pathology, neurosurgery, internal medicine, psychiatry, oral pathology, orthopaedic surgery, general dentistry, pharmacology, and local and general anaesthesia. While this approach has obvious advantages, it also has the disadvantage that few readers have the necessary training in so many disciplines to understand and evaluate all the contributions. However, there is something for everyone.

Dentistry is becoming increasingly involved with facial pain as we become more aware that certain sites in the masticatory system, which themselves remain asymptomatic, may give rise to noxious nerve impulses. This is what makes diagnosis and prognosis so difficult. These impulses may produce effects which in turn provoke further symptoms. But when the attacks begin in adult life, approximately 75 per cent of cases of facial pain originate in the masticatory system.

W. J. Linghorne

The Dental Specialties in General Practice

A. L. Morris and H. M. Bohannon.
Toronto, W. B. Saunders, 1969. 581 p.
Illus. \$27.00

This book was written specifically for the general practitioner. Its subject matter was compiled "to reflect the common needs and interests of the general practitioner but it also includes material which will permit him to expand his scope of interest and professional involvement in special areas he may care to pursue in greater detail."

Eighteen contributors from the different departments of the Dental Faculty of the University of Kentucky have produced an excellent text which provides a wealth of clinical knowledge to be used for the improvement of everyday general practice.

Their text stresses the essentials of the new knowledge that has been and is being developed and carefully illustrates some new techniques step by step. There are chapters on Community Dentistry, Oral Medicine, Oral Pathology and Oral Diagnosis, Paedodontics, Orthodontics and Restorative Dentistry.

The material is well laid out and is easy to read. Chapter 1 provides an interesting speculation about the future of the specialties themselves and in their effect on general practice. The editors direct their information toward the post-World War II graduate assuming that their material will supplement the knowledge he has already gained. I believe, however, that any practising dentist who has tried to keep abreast of developing knowledge will find this book a worthwhile and handy reference which deals with the day-to-day clinical problems facing the general practitioner.

O. J. Yule

Current Orthodontic Concepts and Techniques

T. M. Graber, ed. Vol. 1 and 2.
Philadelphia, W. B. Saunders Company,
1969. 988 p. Illus. \$64.30

Despite the great increase in orthodontic publications of various kinds, this is the first comprehensive work that covers contemporary thought on diagnosis, biomechanics and serial extraction as well as the major appliance systems including the revived field of dental orthopaedics. The problems of retention are also examined in depth. Of these topics, two are covered by Graber and the remainder by various authors also eminent in the field.

The work is directed wholly to readers thoroughly conversant with the principles and practice of orthodontics. For such, it presents an excellent overview of the 'state

of the art' as the specialty enters the seventies. However, these volumes are in no sense primers, and much of their content is not apprehensible without a substantial orthodontic background.

The illustrations are comprehensive and generally very well reproduced. Yet many readers will be annoyed by the occasional pencilled outlines on radiographs and by the repeated obliteration of subjects' eyes. Although the editor's addiction to metaphors may be amusing, some will find it irksome. ("Searched his orthodontic soul to show both sides of the coin [thus] stripping away the Chamber of Commerce aura!")

More serious is the general absence of critiques of the mechanotherapies described. For instance, the labiolingual technique is carefully detailed, but its limited ability to effect bodily tooth movement is neither evaluated nor discussed.

Orthodontic opinion still varies quite widely on many aspects of treatment, and every clinician will find points in these volumes with which he disagrees. Such criticisms should not obscure the fact that Graber and his co-authors have compiled an outstanding and unique text which history may well regard as a monument to twentieth century orthodontics.

C. S. C. Lear

Atlas of Diseases of the Oral Mucosa

J. J. Pindborg. Copenhagen, Munksgaard,
1968. (Disponible chez W. B. Saunders,
Toronto) 215 p. Illustré. \$30.25

C'est chose rare!

Un livre publié en 1968 et quand même à date.

Il nous faut féliciter l'auteur de ce volume qui a réussi à accumuler une quantité importante d'informations sur les maladies de la cavité buccale dans un temps relativement court de sorte qu'au moment de la publication le volume n'accuse pas 10 années de retard.

Voici un atlas qui se distingue et par la qualité de ses clichés et par la précision, l'authenticité et la justesse de son texte; on y reconnaît le doigté d'un clinicien expérimenté qui est passé maître dans l'évaluation clinique des lésions buccales. Le texte qui accompagne chacun des clichés en couleur est court, au point, résume une idéologie moderne qui prend corps et est basé sur une bibliographie des plus récentes. L'auteur y discute les dernières données au sujet de l'étiologie, l'épidémiologie et l'apparence clinique de chaque lésion.

La nomenclature employée est basée sur la dernière révision de la Classification Internationale des Maladies. C'est là un choix des plus judicieux qui devrait contribuer

à une meilleure compréhension et identification des maladies.

Le lecteur rencontrera dans ce texte une classification logique des maladies parasitiques, infectieuses, néoplasiques, endocriniennes, nutritionnelles et métaboliques. Les maladies du sang, du système nerveux, circulatoire, respiratoire, digestif ainsi que les complications de la grossesse, les maladies de la peau, du système musculosquelettique, du tissu conjonctif, les anomalies congénitales et les intoxications sont les principaux chapitres sous lesquels les lésions les plus importantes qui se présentent sur les muqueuses buccales sont discutées.

Ce volume se présente comme un texte de choix pour l'étudiant et le praticien; à mon sens, il représente pour le dentiste un instrument de travail aussi indispensable que la lumière de son cabinet dentaire.

Denis Forest

Precision Attachments in Dentistry

H. W. Preiskel. Londres, Henry Kimpton, 1968. 184 p. Illustré. 63s.

Ce volume édité en 1968 en Angleterre par Henry Kimpton a le grand avantage de couvrir un sujet encore très peu traité dans la littérature nord-américaine. En effet, les grands auteurs américains en prothèse partielle ont surtout traité d'appareils conventionnels et des lois qui les gouvernent, laissant la question des attachements de précision aux fabricants. Les revues scientifiques ont toutefois permis à plusieurs spécialistes de parler des attachements de précision à l'occasion d'articles périodiques.

Le docteur Preiskel reconnaît lui aussi, au début de son volume, que l'usage rationnel des attachements de précision est relié à toute la question de la prothèse partielle amovible. Ils ne devraient être employés, selon lui, que dans les cas où les ponts fixes ou le partiel conventionnel leur sont inférieurs. L'auteur insiste donc, dès le début, sur la nécessité de posséder de bonnes notions de réhabilitation buccale. L'examen complet et sérieux, de même qu'un plan de traitement intelligent, sont bien plus importants que le type de "gadget" et son coût pour réussir dans la prothèse partielle de précision.

Ce volume constitue surtout une revue complète de tous les attachements vendus en Europe et en Amérique et insiste plus sur les européennes qui sont plus nombreuses et diversifiées. Une classification des attachements, basée sur leur forme, permet au lecteur de découvrir toute la gamme des prothèses de précision prenant ancrage sur les dents, à partir des plus simples jusqu'aux superstructures hybrides (dentiers télescopiques, etc.). L'auteur consacre peu de temps à la description des techniques

cliniques ou de laboratoire. Le lecteur éventuel trouvera donc dans ce volume un complément à ses notions de prothèse partielle plutôt que des recettes miracles pour traitements extraordinaires.

L'ouvrage apparaît comme un excellent volume de référence et contribuera, espérons-le, à la diffusion de certaines méthodes européennes pouvant nous aider à réhabiliter nos patients.

Jacques Fiset

Textbook of Oral Surgery

G. O. Kruger. Ed. 3. St. Louis, C. V. Mosby Company, 1968. 593 p. Illustré. \$19.25

Kruger et ses collaborateurs nous apportent une troisième édition légèrement modifiée. En effet, le nouveau chapitre sur les transplants s'inspire en bonne partie du chapitre sur les blessures d'origine traumatique de la deuxième édition.

Les bons chapitres sont toujours les mêmes, ceux sur les infections, les fractures, l'articulation temporo-mandibulaire. Le chapitre le plus remarquable de ce livre demeure celui des malformations des maxillaires. Caldwell a corrigé un point faible de la deuxième édition en faisant une distinction nette entre l'ostéotomie subcondylienne à l'aveugle avec la scie de Gigli et l'ostéotomie verticale oblique par voie sous-angulomandibulaire sans décortication à la Robinson, ces deux techniques servant à corriger une prognathie. Il ajoute de plus la technique de l'ostéotomie sagittale à la Obwegeser, mais fait erreur sur la coupe de la corticale externe qui se fait plus antérieure et verticale au niveau de la troisième molaire et non supérieure et horizontale dans la branche montante, tel que décrit. Cette dernière technique, qui est la technique de choix pour corriger une rétrognathie, y est à peine mentionnée dans le traitement des rétrognathies. La seule addition réelle de cette nouvelle édition est la fin de ce chapitre de Caldwell qui traite de l'apertognathie. Ici on effleure un sujet qui prend de plus en plus d'importance, soit la chirurgie orthodontique. Le livre y aurait gagné tellement en intérêt si on avait confié ce sujet très nouveau en Amérique du Nord à un spécialiste en la matière.

Les points faibles de ce livre demeurent. Ainsi la partie sur la chirurgie prothétique est toujours aussi vague avec l'illustration de plusieurs techniques, sans discussion profonde sur les buts, les principes et les indications de cette chirurgie.

L'achat de la nouvelle édition pour remplacer la deuxième n'est pas particulièrement recommandable pour les raisons précédentes. En résumé, le livre de Kruger conserve sa réputation d'être un des livres de chirurgie buccale les plus populaires, tant pour l'étudiant que pour le praticien.

Paul Mercier

library • bibliothèque

Additions • Acquisitions

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Postmark Brantford

A little more than half a century ago Doctors F. S. McKay and G. V. Black published their classic articles about a developmental effect, mottled enamel, which they attributed to a then unknown water-borne agent. Their predictions were substantiated some 15 years later with the discovery that fluoride was the aetiological factor for dental fluorosis. Subsequent epidemiological investigations demonstrated that dental caries prevalence was greatly reduced in children using drinking water with fluoride in concentrations that produce no significant cosmetic change in enamel. This finding suggested that water supplies might be fluoridated for purposes of controlling dental caries. It marked the genesis of studies on the effects of adjusting the fluoride content of a community water supply to an optimal level.

One of the world's first water fluoridation studies was centered at Brantford in southern Ontario. Credit for initiating the project belongs to a dentist and a physician—Dr. B. W. Linscott, Brantford's former school dental officer, and Dr. W. L. Hutton, formerly the medical director of the Brant County Health Unit. At a special meeting of the local board of health, held on August 19, 1942, they proposed that Brantford embark on a fluoridation experiment. It took two long years to secure the necessary support from local and provincial authorities. In 1944 the city council, on recommendation of the board of health, approved the fluoridation of the municipal water supply. Because of delay in obtaining the necessary equipment, fluoridated water did not begin to flow until June 20, 1945. Subsequently, the Department of National Health and Welfare joined the investigation by setting up a control study which compared dental caries in Brantford with caries in a fluoride-free community (Sarnia) and in a naturally fluoridated community (Stratford). The purpose of this study was to learn what effect the adjustment of the fluoride content of the water in a range of 1 ppm F would have on dental caries prevalence and severity.

The results, of course, are now engraved in the pages of history. Some of the principals are no longer with us, but the fruit of their inquiring minds lives as part of our heritage. Next year Brantford will mark the twenty-first anniversary of fluoridation — the first city in Canada that can make this claim. Such an event deserves more than passing observation and Dr. S. J. Gallagher, Vancouver's dental director, has publicly suggested that the Post Office issue a special commemorative postage stamp to celebrate the event.

Custom decrees that one should not draw attention to a lady's age, but to overlook an important anniversary would be an even graver omission. Dr. Gallagher's suggestion is therefore altogether fitting, not alone because of its tribute to the forward-looking citizens of Brantford, but because it would remind our fellow citizens of an important scientific contribution toward betterment of the dental health of our nation.

Prière pour la tolérance

En France, on dit parfois que Voltaire a été le premier à concevoir l'histoire à la fois comme une science et comme un art. Chez lui, l'intention philosophique était tout, et la lecture de son "Traité de la tolérance" atteste de l'exactitude de sa perception de l'Homme du XVIII^e siècle. L'Homme, le philosophe, paraît avoir accompli si peu de progrès depuis lors que l'extrait qui suit semble avoir été écrit hier seulement. Même les lieux géographiques sont à l'actualité:

"Ce n'est plus aux hommes que je m'adresse; c'est à toi, Dieu de tous les êtres, de tous les mondes et de tous les temps: s'il est permis à de faibles créatures perdues dans l'immensité, et imperceptibles au reste de l'univers, d'oser te demander quelque chose, à toi qui as tout donné, à toi dont les décrets sont immuables comme éternels, daigne regarder en pitié les erreurs attachées à notre nature; que ces erreurs ne fassent point nos calamités. Tu ne nous as point donné un cœur pour nous haïr, et des mains pour nous égorger; fais que nous nous aidions mutuellement à supporter le fardeau d'une vie pénible et passagère, que les petites différences entre les vêtements qui couvrent nos débiles corps, entre tous nos langages insuffisants, entre tous nos usages ridicules, entre toutes nos lois imparfaites, entre toutes nos opinions insensées, entre toutes nos conditions si disproportionnées à nos yeux et si égales devant toi: que toutes ces petites nuances qui distinguent les atomes appelés hommes ne soient pas des signaux de haine et de persécution.

Puissent tous les hommes se souvenir qu'ils sont frères! qu'ils aient en horreur la tyrannie exercée sur les âmes, comme ils ont en exécration le brigandage qui ravit par la force le fruit du travail et de l'industrie paisible! Si les guerres sont inévitables, ne nous haïssons pas, ne nous déchirons pas les uns les autres dans le sein de la paix, et employons l'instant de notre existence à bénir également en mille langages divers, depuis Siam jusqu'à la Californie, la bonté qui nous a donné cet instant."

Joyeux Noël et une bonne et heureuse année!

letters • courrier

The editor reserves the right to edit all communications to fit available space and requires that all letters be signed.

■
La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Toute communication doit être signée.

Artificial Sweeteners

To the Editor:

Artificial sweeteners are not a new phenomenon. Saccharin, for example, was discovered in 1879, marketed in 1900, and has been widely used since. Cyclamates, which have the advantage of being suitable for use in cooking and baking, and of not possessing bitter after-taste, were first marketed in 1950. They are generally employed in combination with saccharin, usually as a mixture of 10 parts cyclamate to one part saccharin. Both these agents have considerable and legitimate medical uses. An adjunct to the treatment of obesity, they are of definite value for some patients. Their substitution for sugar in the diet will result in a saving of about 200 calories a day. Diabetics who find a low sugar diet unpalatable often use

such sweeteners to help to adhere to their treatment schedule. The 1969 meeting of the Board of Governors of the Canadian Dental Association approved a statement on carbohydrate and dental caries which emphasizes the part played by sugar in the production of tooth decay. It recommends that unavoidable between-meal snacks should be sugar-free or low in sugar, and that foods which are rich in sugar should be eaten only at mealtimes, and then only in moderation.

The Excise Tax Division of the Department of National Revenue has recently decreed that cyclamates will no longer be considered as substances which are exempt from the 12 per cent federal sales tax. The Excise Tax Act indicates that substances which are exempt from this tax are those which are "... sold or represented for use in the diagnosis, treatment, mitigation or prevention of a disease, disorder, abnormal physical state or the symptoms thereof..." It seems that cyclamates, by virtue of their medical uses, do fit this definition and it is not clear why a sudden decision is now made that they do not comply.

Removal of the tax exemption means an automatic 12 per cent price increase which will have to be borne by many diabetics, patients on calorie-restricted diets and others who now use cyclamates. We are presently contesting this decision of the Department of National Revenue.

W. R. Porter, MD,
Director, Clinical Investigation Branch,
Abbott Laboratories Ltd., Montreal.

Aminocaproic Acid for Haemophilia

To the Editor:

I wish to make some comments on an article entitled "Use of Aminocaproic Acid in Oral Surgery for Haemophiliacs" by L. I. Gaum which appeared in the November Journal.

The term 'haemophilia' has been and still is used very loosely to describe any bleeding disorder where the clotting mechanism is defective. However, its scientific use is now restricted to deficiencies in the following blood fractions: (a) factor VIII (haemophilia A or classical haemophilia), (b) factor IX (haemophilia B or Christmas disease), (c) factor XI (haemophilia C or Rosenthal factor). There are many other vascular and blood disorders such as von Willebrand's disease and factor X or XI deficiencies which are now designated as pseudohaemophilias. Therefore, before one can discuss the treatment of a 'haemophiliac' one should know the exact nature of the deficiency which the author has neglected to state in this case.

I assume that the patient described in the case report was deficient in factor VIII or had classical haemophilia. The factor VIII level of a patient is usually expressed as a percentage of the average normal blood content, and the inherent tendency to haemorrhage is directly proportional to the amount present. Thus: 50 — 100 per cent is usually associated with normal clotting; with 25 — 50 per cent mild to excessive bleeding may occur; with 5 — 25 per cent severe bleeding may occur after surgery; and with 0 — 5 per cent severe bleeding can occur after minor trauma.

Dr. Gaum's report does not mention the factor VIII or AHG level; consequently, one cannot assess the success of the aminocaproic acid treatment as the patient may have had 25 — 50 per cent AHG levels with little tendency to haemorrhage.

The exact nature of the normal clotting procedure is but imperfectly understood and it is especially hard to comprehend the nature of the anti-clotting mechanisms in haemophiliacs such as fibrinolysins, anti-AHG factors, and so forth. It has been suggested that the problem in haemostasis in this case was due to overactivity of the fibrinolytic system — hence the use of aminocaproic acid in the treatment. One wonders why this decision was made and what tests were used to determine overactivity of the fibrinolytic system in this particular patient.

The best way to treat any disease is to eliminate the cause or correct the defect. Haemophilia is no exception to this rule. If the haemophiliac's factor VIII level is built up to approximately the 25 per cent level normal haemostasis will occur after most surgical procedures. This can easily be done with cryoprecipitate, a concentrated factor VIII product.¹ One can say the same about cryoprecipitate as Dr. Gaum said about aminocaproic acid — "an added advantage of this agent is that it eliminates the risk of circulatory overload and cardiac failure" — with the definite knowledge that the clotting defect will usually be corrected.

Whenever the factor VIII level has been built up by a haematologist in the hospital environment the haemophiliac becomes an essentially normal patient on whom oral surgery can be performed — without the use of splints. In my opinion and experience cryoprecipitate administration is preferable to aminocaproic acid therapy for oral surgery and operative treatment in the haemophiliac patient.

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150 James St. South,
Hamilton, Ont.

1. Barrett, K. E. Cryoprecipitate for oral surgery in factor VIII deficiency. *J. Canad. Dent. Ass.* 35:416, 1969.

The changing face of Medicare

Medicare, as the *Mercer Actuarial Bulletin* has remarked, is coming on strong. Seven of 10 provinces have joined; Quebec is poised and only New Brunswick and Prince Edward Island are holding out.

Though the various provincial plans are similar in scope, they are not identical. They do, however, fulfil the four basic requirements to qualify for federal subsidies — that is, a provincial plan must be 'comprehensive,' 'portable' from province to province, 'universal' and 'publicly administered.'

Only two provinces, Nova Scotia and Newfoundland, do not levy individual monthly premiums. The others raise part or most of the required monies through the premium method.

Ontario has the highest monthly premium structure: \$5.90 single, \$11.80 for a family of two, and \$14.75 for a family of three or more.

At the other end of the scale are Manitoba and Saskatchewan. Premier Schreyer of Manitoba recently announced an 88 per cent cut in the premiums for his province's plan. This will undercut Saskatchewan which levies \$1 single and \$2 for a family of two or more. In Saskatchewan, a utilization fee is also charged: \$1.50 per office visit, and \$2 per home visit.

... A province will lose its federal medicare contribution if it permits citizens to insure themselves again extra-billing ...

All existing medicare plans pay between 80 and 95 per cent of provincial medical associations' fee schedules except British Columbia. As a consequence, the subject of extra-billing has become a hot issue. Manitoba and Nova Scotia physicians are adamant about charging their patients the difference between medicare allowances and their normal fee tariff. Physicians in Alberta increased their fee tariff 6.5 per cent on July 1, 1969 and this increment was not reflected in medicare payments. Therefore, Alberta patients who were accustomed to having their bills paid in full under previous plans now find themselves having to pay part of the costs themselves. In British Columbia, Saskatchewan, Nova Scotia, Alberta and Ontario, physicians may extra-bill and still remain in medicare provided they give advance notice of the extra charge. Supplementary private insurance against such extra-billing is not allowed in British Columbia, Alberta and Ontario, nor by the 'approved carriers' in Saskatchewan, while regulations in Nova Scotia are set up in such a way that this

coverage may be prohibited at any time. Physicians who participate in medicare in Manitoba and Newfoundland cannot extra-bill. Those who opt out can extra-bill but cannot bill medicare directly and must collect through their patients. Medicare applies automatically to all residents of Nova Scotia and Newfoundland, as these plans are tax-supported. In Manitoba, the plan and premium payments are compulsory. Low income persons may receive premium relief. The plan and premium payments are also compulsory in Manitoba and Alberta. In Alberta, low income subsidies are available based on the prior year's income (as is the case in British Columbia and Ontario). Employer contributions to medical plans replaced by medicare in British Columbia, Saskatchewan, Manitoba and Ontario are required under their respective regulations to be applied to the benefit of the employees. This is not the case in Alberta. In all provinces except British Columbia and Ontario medicare is administered by a central provincial body. In British Columbia, medicare can be arranged through a number of 'licensed carriers' who are subject to all the terms of medicare as well as provincial audit. The same approach is used in Ontario except that commercial carriers (including insurance companies) share in medicare administration through non-profit corporations (Healthco Ltd. and Associated Medical Services Inc.) which the provincial government have franchised as 'designated agents.'

All the plans cover physicians' services, including surgery, anaesthesia, diagnostic, laboratory and x-ray services, as well as visits in homes, offices or hospitals. Some plans include extra benefits such as certain oral surgery, services of chiropractors, osteopaths, podiatrists and eye refractions by optometrists.

... Several provinces prohibit supplementary insurance against extra-billing. The Medical Care Act requires each provincial plan to furnish insured services on uniform terms and conditions to all insurable residents ...



Medicare Roundup

Newfoundland

- No premiums
- Pays 90 per cent of 1967 fee scale
- Non-participating physicians may charge more and patients must pay the difference

Nova Scotia

- No premiums
- Additional coverage will be sold by Maritime Medical Care which has been absorbed into the provincial medicare agency and processes accounts for the province

New Brunswick, Prince Edward Island

- Lack money to enter the federal scheme

Quebec

- Will introduce medicare July 1, 1970
- It is to be a 'Quebec' program
- Is dependent upon the federal government allowing the province to opt out of the national plan and turning over the fiscal equivalent. New federal legislation would be required to permit this
- Quebec is also asking for return of money collected in the province from the new federal Social Development Tax prior to July 1, 1970

Ontario

- Plan is compulsory for employee groups of 15 or more
- Pays 90 per cent of OMA fee schedule
- Physicians may extra-bill if they so notify patients before commencing treatment. Private insurance against extra-billing is prohibited
- Provincial share mainly financed by monthly premiums: \$5.90 individual, \$11.80 couple, \$14.75 family

Manitoba

- Plan is compulsory
- Pays 85 per cent of provincial fee schedule
- Provincial share financed by taxes and monthly premiums: \$0.55 individual, \$1.10 family

Saskatchewan

- Plan is compulsory
- Provincial share financed by taxes and monthly premiums: \$1 individual, \$2 family
- Deterrent fee: \$1.50 for each office visit, \$2 for each home call or visit to an outpatient department
- Limit for deterrent fees payable per year by a family for the medical and hospital insurance plans: \$180

Alberta

- Plan is compulsory
- Physicians announced 6.5 per cent fee increase July 1 when that province's medicare began
- Subscribers pay the difference between physicians' fees and medicare allowances
- Monthly premiums: \$5 individual, \$10 family

British Columbia

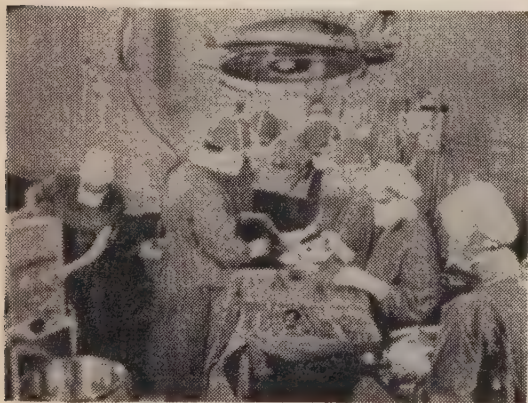
- Plan is voluntary
- Provincial share financed by monthly premiums: \$5 individual, \$10 couple, \$12.50 family

... Canadians may supplement their basic medical insurance with coverage from private carriers for services like dental care, drugs and nursing care which are not included among those set out in the Medical Care Act ...

The federal cabinet is empowered to authorize federal medicare contributions to any medically-required services that are covered under provincial insurance schemes. This means that if a province wants to insure dentists' services, it must apply to the federal government. If the cabinet agrees, it can authorize federal contributions; if the cabinet does not agree, the province has to pay entirely for the additional coverage.

The application of income tax to medicare is extraordinarily inconsistent and inequitable; each province is treated differently. Take the case of Ontario and Saskatchewan. In Ontario, Ottawa has ruled that where medicare is compulsory, the employer's contribution will not be added to the employee's income for tax purposes. Ontario says that its version of medicare is mandatory for all groups of employees larger than 15. Where a group falls between six and 15, a majority of it can voluntarily ask to be placed in the mandatory class. Left outside — for income tax purposes — are employee groups of five or fewer, and individuals. They have to pay their own premiums if they want coverage, and they have to pay income tax on the lot of it as well.

Saskatchewan residents, too, pay premiums, often shared by employers, but none of them are tax exempt. The rationale — if any — may be that commercial carriers share in the administration of Ontario's plan whereas the Saskatchewan plan is completely government controlled and administered. This, however, leaves the position of British Columbia obscure. That province uses licensed carriers but contributions to its plan were taxable prior to October 1. Its subsequent position is unknown. All of which seems discriminatory and needlessly confusing.



CDA charts new course; revamps Board of Governors

Important changes in the structure of the Canadian Dental Association will result from a special Board of Governors meeting which wound up in Toronto on November 1.

The meeting culminated months of discussion and review, arising out of the Aims and Objectives Conference which had been called to set new guidelines for the work of the CDA into the 1970s.

The report of the Aims and Objectives Conference was received at the 1969 meeting of the Board of Governors held in July in Montreal. However, there was not time at the regular annual meeting to give the report the consideration it deserved, and so arrangements were made for a special meeting of the Board, which was later held in Toronto.

The Toronto Board meeting gave a thorough going-over to all 23 articles of the proposed new CDA by-laws contained in the report of the reference committee

which studied the findings of the Aims and Objectives Conference.

As a result, the new by-laws now bearing the stamp of approval of the CDA



Cooperation and understanding were pre'ominant when the Canadian Dental Association Board of Governors met at CDA Headquarters in Toronto, October 31-November 1 to discuss amendments to the by-laws.



P. S. Christie, Halifax, chairman of the CDA Board of Governors, discusses the proposed new by-laws with W. J. Spence, Toronto, president-elect; Henri Brouillet, Montreal, past president; and H. R. MacLean, president.

Board have gone to the Constitution and By-Laws Committee for final polishing. They will be presented to the CDA Board at its annual meeting in Winnipeg next July for formal adoption.

Enlarged Board

A major change in the by-laws will result in an enlarged Board of Governors which will ensure more equitable representation to the various corporate members. Under the new provisions, the Board will be enlarged from 21 to 32 voting members, plus three non-voting members representing federal dental services instead of one voting member as is now the case.

The 32 voting members of the new Board will be a permanent number. Membership on the Board, in addition to the CDA president and immediate past president, will be accorded the various corporate members on the basis of a formula related to dental population of each province.

Under the formula, each corporate member will automatically receive one seat on the Board. Additional seats will be gained based on population. On the basis of the present dental population, the formula would apportion the seats as fol-

lows as of January 1, 1970: Ontario, nine; Quebec, six; BC and Alberta, three each; Saskatchewan, Manitoba and Nova Scotia, two each; New Brunswick, Prince Edward Island and Newfoundland, one each. This would change the present representation of six from Ontario, three from Quebec, two from BC and one from every other province.

Nominations to Change

A streamlined nominating procedure is provided for in other by-law changes.

Nominations to the Board of Governors, as of 1971, will be handled by a nominating committee of three persons, plus the CDA president-elect, who will serve as chairman.

Three months in advance of each annual meeting, the committee will notify Board members, committee chairmen and secretaries of corporate members and CDA sections of any vacancies requiring nominations.

Written nominations will be invited up to a deadline of two months before the annual convention. The committee will rule on the eligibility of nominees, make sure there is a nominee for each vacancy, and make further nominations as it sees fit.

The final slate of nominations will be circulated at least two weeks before each annual meeting.

Decisions on Major Issues

The new by-laws will provide for the CDA to reach decisions on major issues, on policy, only by a 19-to-13 majority vote of the enlarged Board. This means a 59 per cent majority will be required.

The by-laws allow for the Executive Council of the Board to take stands on urgent matters provided the full Board is notified within 14 days, and the position is then presented for review at the next meeting of the Board.

The Executive Council will consist of five members of the Board in addition to the president, president-elect and immediate past president.

The new by-laws have the result of reducing the authority of the Executive Council in some areas, requiring instead approval by the full Board of Governors.

Corporate Member Grants

On the subject of corporate grants to the CDA, the new by-laws will continue to let the CDA Board set the amount which the various corporate members should provide.

There was warm debate on this point, with some Governors holding that the national association should specify the amount in its by-laws, and others maintaining that this was unnecessary.

When it was pointed out the CDA was on record as calling for all corporate members to establish their grants at \$65 per dentist "as soon as possible" the Governors decided not to specify any particular amount in the by-laws.

The Association's president and president-elect, to be chosen from voting members, are to be designated as CDA elective officers. CDA appointive officials will include the executive director, treasurer and editors.

The title 'Executive Director' will apply to W. G. McIntosh who has previously served under the title of secretary.

New Committee Structure

The CDA's various councils and committees will be reorganized into standing committees, covering Auxiliary Services, Constitution and By-Laws, Dental Services, Education, Ethics, Headquarters Property, Hospital Services, Insurance, Legislation, Nominations, Public Health and Preventive Dentistry, and Research.

In addition, the CDA Communications Committee will become a standing committee, with terms of reference to be considered at the next Board meeting.

The new by-laws also set out a new structure for the Committee on Education so as to give definite representation to related bodies such as the National Dental Examining Board of Canada, while assuring a reasonable member of private practitioners are involved.

Governors Happy With Results

Members of the Board, led by President H. R. MacLean, expressed satisfaction at the speedy and conciliatory manner in which agreement was reached on the new by-laws.

Dr. MacLean, however, cautioned that the CDA will be able to carry out changes such as the expanded Board of Governors only if the Association has funds to finance these developments.

Increasing the Board will increase expenses by having to pay costs of more governors travelling to Board meetings. In addition, he said the workload at headquarters is increasing and additional staff will be required to cope with the changes.

"This makes it more imperative than ever that all corporate members meet the \$65 level," Dr. MacLean said.

Dr. MacLean described the spirit of the meeting as "the best ever seen" at a Board meeting.

"A definite spirit of cooperation and a willingness to be as constructive as possible permitted a large amount of business to be done," he said.

Changes in the Board will give "a more equitable distribution and representation to corporate bodies," Dr. MacLean said.

E. J. Siegel of Toronto described the meetings as "calm and conciliatory." He predicted a "lot of the problems of the CDA will vanish in the near future."

Louis Bernier, Quebec City, said the meeting would prove "fruitful to the profession at large."

D. K. Peters, St. John's, Nfld., said "the rapport between the delegates was better than it has been . . . we all gave a little bit and the Association is much stronger."

W. C. Deacon, Ottawa, said "the spirit of goodwill and understanding amongst all the governors across Canada has been greatly enhanced."

Canada and the Provinces

Ask Dentists to Help in Identifying Dead Man

The Royal Canadian Mounted Police is asking dentists to help in identifying a badly decomposed male body recovered July 1 from the Saskatchewan River approximately three miles east of The Pas, Man. The victim was probably of Indian or Metis origin, in his early twenties, six feet tall, and about 200 pounds in weight.

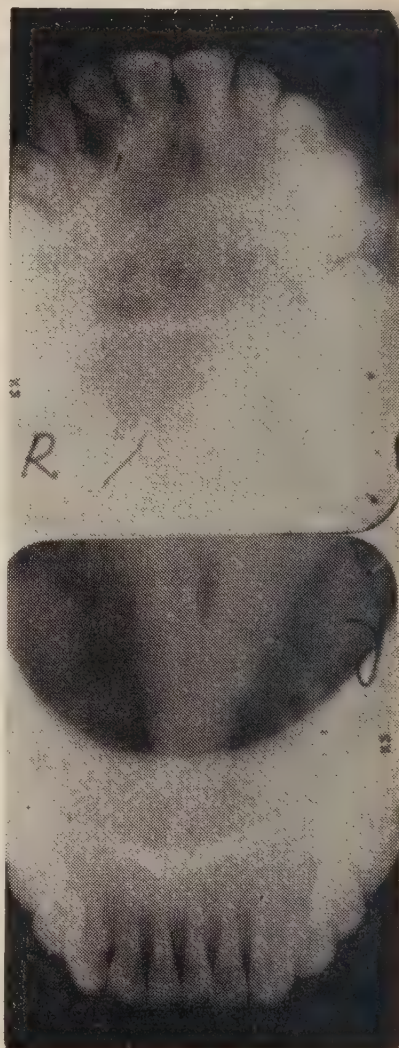
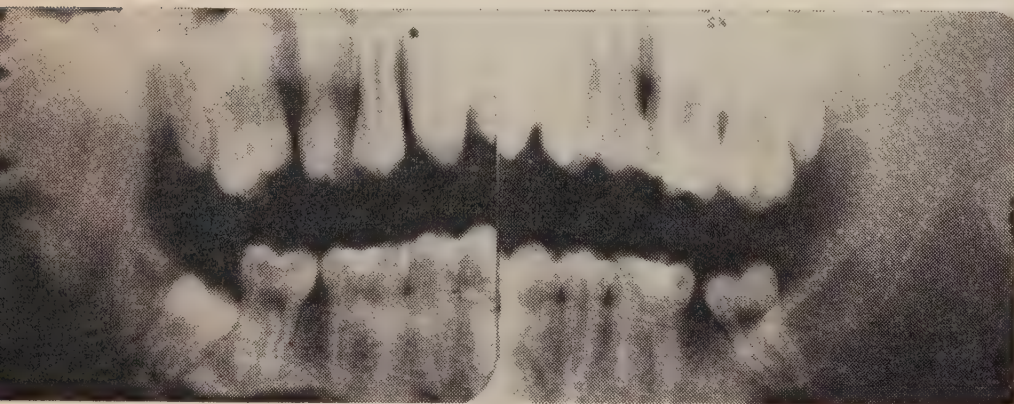
Extra-oral radiographs show all permanent teeth except the upper right first molar and the lower left second molar. There are occlusal amalgam restorations in the upper and lower left first molars and in the lower right first molar. The lower right third molar is unerupted. The peg-shaped upper left and right third molars are also possibly unerupted or barely noticeable. The bone has healed completely in the areas where teeth were

lost. Because of mesial drifting, it is possible that these teeth were extracted several years ago.

Any information about the victim's identity should be directed to The Pas Rural Detachment, RCMP, PO Box 1498, The Pas, Man. Please enclose as much information as possible, including treatment charts and radiographs.

G. D. Watson, CDA Counsel, Dies

Gordon Douglas Watson, QC, Toronto, died suddenly on October 19 at the age of 66. A native Torontonion, Mr. Watson received his early education at De La Salle College and the University of Toronto Schools and earned a BA degree in politics and law at the University of Toronto in 1926. Since his graduation from Osgoode Hall Law School in 1929 he was a member of the Toronto law firm Smith Rae, Greer. He acted as counsel for many





G. D. Watson

years for the Canadian Dental Association and the Royal College of Dental Surgeons of Ontario. Honorary membership in the CDA was conferred on him in 1967. He had been appointed Queen's Counsel in 1945.

Besides his wife, Mabel, Mr. Watson is survived by a daughter, Carole, wife of Dr. R. G. Hiscox of Brampton, Ont., a brother, Fred, and two grandchildren.



Distinguished visitors to the September 15 Atlantic Provinces Dental Convention at Summerside, Prince Edward Island, included CDA President H. R. MacLean (left) and CDA Executive Director W. G. McIntosh (right). They are seen with Mayor Ross MacKenzie of Summerside.

Dental Organizations

Saskatchewan Children's Dentistry Group Elects Dr. Donovan

T. E. Donovan, Regina, was elected president of the Saskatchewan Chapter, Canadian Society of Dentistry for Children, September 13. R. D. Bradley and E. T. Duke, both of Regina, are respectively vice-president and secretary-treasurer.



Peace River District dentists held their fall meeting at Fairview, Alta., October 3-4, 1969. Attending the meeting were (l. to r.) G. E. Decker, Edmonton, executive director, Alberta Dental Association; G. F. Copithorne, North Vancouver, president, College of Dental Surgeons of British Columbia; M. M. Woronuk, Fairview; K. L. Croft, Vancouver, managing director, CDSBC; and V. M. Erickson, Dawson Creek, BC, Peace River District Dental Society representative to the CDSBC Council.

International Items

ADA New York Meeting Draws Nearly 30,000

H. M. Klenda of Wichita, Kansas, is the new president of the American Dental Association. He was installed October 16

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on October 31:

Government Bond Fund \$13.753;

Corporate Bond Fund \$14.944;

Common Stock Fund \$25.716.

Total assets (market value) of the plan were \$9,642,194.35.

The following common stock portfolio sales occurred during the preceding month: 2,550 shares Equity Funding Corp. of America and 4,300 shares Dillingham Corp.

For further information please write to CDA-sponsored Retirement and Insurance Plans, 230 St. George St., Toronto 180, Ont.



During the November 3-5 Fall Clinic of the Montreal Dental Club, H. M. Jolley (centre), president of the Royal College of Dental Surgeons of Ontario, presented Marcel Archambault, president of the College of Dental Surgeons of the Province of Quebec, an illuminated scroll marking a hundred years of organized dentistry in Quebec. Charles Gosselin (left), a CDSPQ governor, reads the text.

at the close of the ADA's 110th annual session in New York City.

Regional Conventions

Honour Quebec College at Recent Montreal Fall Clinic

More than 1,500 participants helped to make the Montreal Dental Club's 44th annual Fall Clinic one of the best on record. The event was also a special occasion for celebrating the hundredth anniversary of the College of Dental Surgeons of the Province of Quebec.

Highlighting the scientific program was a special two day pre-convention seminar conducted by R. F. Barkley of Chicago. Dr. Barkley described how he incorporates preventive concepts in a busy practice. Montreal's Donald Kepron conducted a seminar on diagnosis and treatment planning for complete and partial prosthodontics while G. M. Kramer, Boston, stressed the need for precise diagnosis in surgical treatment of periodontic disease.

"There is no justification for the use of highly abrasive tooth pastes," said J. C. Muhler, Indianapolis. Dr. Muhler described his preliminary research with an experimental high polish dentifrice. Its aim is to achieve a compromise between cleansing — which causes abrasion — and polishing — which smooths the enamel surface. Even at this early stage of development, said Dr. Muhler, the new tooth paste has been shown to reduce abrasion and cavities dramatically.

Dr. Muhler also dealt with clinical, radiographic and laboratory diagnosis; nutrition and home care; and fluoride therapy. He recommended mass preventive techniques whereby large numbers of people are treated simultaneously. His call for mass therapy was echoed by the Canadian Dental Association's president, H. R. MacLean, who said group clinics should be developed to combat dental disease.

A proponent of work simplification, William Schmid, Jr., of Wilton, Connecticut, dwelt on the advantages of operating in a seated position. E. R. Ambrose, Montreal, contrasted composite resins with other established restorative materials. He told his listeners when and why to use the new resin systems and how to prepare and insert the material.

The best uses of porcelain fused to metal were described by R. W. Dykema, Indianapolis, a noted authority on this subject. S. P. Ramfjord, Ann Arbor, Michigan, reviewed the entire field of occlusion — from physiological studies through clinical, electromyographic and other experimental studies. Dr. Ramfjord concluded with remarks about trauma from occlusal disharmony and the evaluation of occlusal adjustment.

R. R. Hawes, Cleveland, Ohio, advocated preventive services and more efficient restorative procedures for child patients in a general practice. Benjamin Sedlezky, Montreal, gave the indications for non-surgical endodontics and described his method of cleaning, shaping and filling root canals.

The solution of common problems with fixed and partial dentures was outlined

Dean J. D. McLean (right) of Dalhousie University dental school, Halifax, stressed the Atlantic Province's urgent need for more dentists when he addressed 110 delegates to the Atlantic Provinces Dental Convention, Summerside, Prince Edward Island, September 15. Dr. McLean is flanked by F. W. Lovely (left), head of Dalhousie's Department of Oral Surgery, and PEI Premier A. B. Campbell.



by C. G. Wirth, Lexington, Kentucky. Dr. Wirth avoids many potential difficulties by eliminating errors during fabrication, fitting and adjusting of castings and by controlling occlusal interference.

Economics

White Paper on Taxation Foresees Sharp Cuts in Expense Deductions

The federal government's White Paper on Taxation proposes to deny any tax deduction for the cost of attending conventions and the cost of dues for membership in social or recreational clubs.

For professional people like dentists who are not incorporated as a business, the paper would impose an accrual system of accounting rather than the present optional cash basis. This would mean they would have to account for the money owed them and the money they owed in calculating their taxable income. To relieve the impact of this changeover, these taxpayers would report the greater of their accrual basis income or cash basis income in each year until all of the accrued income presently deferred is brought into taxable income.

Dental Productivity Study in PEI

The Prince Edward Island health department has launched a research project to measure how much the productivity of a dentist can be increased by dental hy-

gienists who have received special training in additional duties.

Last summer three dental hygienists — Dorothy Coughlin of Cascumpec and Hazel MacRae of Bonshaw, PEI, and Rosa Obrigewitsch from Saskatoon — were specially trained for the project at Dalhousie University's Department of Operative Dentistry. They were taught to insert fillings in cavities prepared by a dentist and to perform certain other duties.

R. G. Romcke, provincial dental director, says that careful measurements will be made of the quantity of dental services which a dentist can provide with and without a dental hygienist. Early indications are that productivity can be raised by over 50 per cent.

The study, which is aided by a federal public health research grant, is being conducted in a special clinic and in several private offices. P. H. Creighan, formerly of Charlottetown and Halifax, is providing treatment in the clinic.

Dr. Creighan says that the cooperation of the PEI Dental Association has been valuable. PEI dentists are interested in new methods which will allow them to treat larger numbers of patients, he says.

Fluoridation

Fluoridation Report Available

The Canadian Dental Association has published a report entitled "Fluoridation in Canada as of January 1, 1969."

There is no charge for single or limited copies of the report which can be obtained from the Bureau of Public Infor-

mation, Canadian Dental Association, 234 St. George St., Toronto 180, Ont.

A fluoridation information kit which has proved valuable to those wishing to obtain the benefits of fluoridation in their communities is also available from the Bureau of Public Information.

Awards and Honours

S. R. Gelmon of Saskatoon has been named a fellow of the Academy of Dentistry for the Handicapped. His induction took place in New York last October. Dr. Gelmon was president of the Academy in 1965-66.

The Halifax County Dental Society has conferred honorary membership on **H. S. Crosby** for "his long and devoted service to dentistry." Dr. Crosby, who attained the rank of Lt.-Col. in the Royal Canadian Dental Corps during World War II, is a professor emeritus at the Faculty of Dentistry, Dalhousie University.

W. A. Crich, Grimsby, Ont., was the recipient of an associateship in the Photographic Society of America when that organization held its annual meeting recently in Washington. Only two of these honours came to Canadians.

George F. Clarke, a Woodstock, New Brunswick, dentist, was honoured with a doctorate by the University of New Brunswick October 8 for his work as a distinguished author, historian and archaeologist.

Deaths

Bonnell, Percival Lincoln. 76. Saint John, NB. Tufts University, 1914. 24-10-69.

Bourgie, Wilfred. 70. Montréal. Université de Montréal, 1925. 29-10-69. Survécut par Marie-Rose (épouse) et Mme Marcel Lesage, Mme Réal Poirier et Mme Jean-Guy Champagne (filles).

Edwards, Stephen Miles. 90. Port Perry, Ont. Royal College of Dental Surgeons of Ontario, 1904. 14-10-69. Survived by

Katie (wife); Stephen (son); Mrs. R. Neal and Mrs. R. Franks (daughters); and Mrs. Hulda Webster (sister).

Frederick, Fred Owen. 52. Montreal. McGill University, 1941. 27-9-69. Survived by Dilys (wife); John (son); Anne (daughter); and F. M. Frederick (father).

Gorchynski, Joseph Albert. 52. Toronto. University of Toronto, 1944. 30-10-69. Survived by Eustachia (wife); Gordon (son); Diana, Terry and Alicia (daughters); Nicholas, John, Stanley, Frank and Kazimir (brothers); and Helen and Adela (sisters).

Kee, Ralph H. 67. Saint John, NB. McGill University, 1926. 22-10-69.

Landau, Julius. 67. Toronto. University of Toronto, 1927. 3-11-69. Survived by Anne (wife) and Norma and Reva (daughters).

Legendre, Pierre. 34. CFPO Allemagne. Université de Montréal, 1962. 21-10-69.

Manning, Thomas Gerald. 67. Saint John, NB. Tufts University, 1928. 16-10-69. Survived by Lawrence Edward (brother) and Mrs. K. M. Willet (sister).

Martin, Lawrence Melville. 77. Ottawa. Royal College of Dental Surgeons of Ontario, 1921. 31-10-69. Survived by Phyll (son).

Pauli, Ferne Olive. 54. Stratford, Ont. University of Toronto, 1939. 5-11-69. Survived by Wilfred (husband); Timothy (son); Joanne (daughter); and J. A. Beatty (brother).

Poag, Arthur Reginald. 74. Hamilton, Ont. Royal College of Dental Surgeons of Ontario, 1919. 8-11-69. Survived by Thelma Louise (wife); Mrs. Douglas Giddings (daughter); and Mrs. George Clark and Mrs. George Willsher (sisters).

Pullar, James Glenison. 78. Calgary, Alta. Royal College of Dental Surgeons of Ontario, 1923. 6-10-69. Survived by Connie (wife); Bill and Bob (sons); Mrs. R. J. Hollingshead (daughter); and 10 grandchildren.

Stewart, Charles Alexander. 66. Toronto. University of Toronto, 1926. 7-11-69. Survived by Lillian M., Mrs. Pearl Gamble and Mrs. C. E. Connors (sisters).

Thomas, William George. 70. Niagara Falls, Ont. University of Toronto, 1926.

15-10-69. Survived by Clara (wife); William Henry (son); Janet Sharon and Barbara (granddaughters); Mrs. Mary E. Thomas (mother); Robert S. and James E. (brothers); and Gladys, Gertrude and Mrs. Grace Zoellner (sisters).

Toombs, B. L. 84. Winnipeg. Tufts University, 1908. 3-11-69.
Wilkinson, Hilary Newman. 86. Toronto. Royal College of Dental Surgeons of Ontario, 1905. 26-10-69. Survived by Marian (wife) and Madeline (daughter).

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Listed below are the names of individuals on whose behalf Living Memorial donations were received by the Canadian Fund for Dental Education during the year November 1968 to October 1969. So that others may remember, the name of each person is inscribed in CFDE's Book of Remembrance permanently displayed in the library of the Canadian Dental Association.

Voici la liste des personnes décédées en mémoire desquelles leurs parents et amis ont envoyé une donation au Fonds canadien pour l'enseignement dentaire, depuis novembre 1968 à octobre 1969. Afin de perpétuer la mémoire des disparus, chaque nom est inscrit au Livre du Souvenir que le FCED expose en permanence dans la bibliothèque de l'Association dentaire canadienne.

Dr. E. T. Anderson
Dr. I. H. Ante
Mr. R. E. Archibald
Mme M. Asselin
Dr. R. H. Atkey
Dr. J. E. Austin

Mr. J. A. Bailey
Dr. S. Baker
Dr. W. C. Balmer
Mr. L. Bédard
Mr. E. A. Bell
Mr. C. A. Birge
Mr. E. R. Blackmer
Dr. P. L. Bonnell
Mme F. Brabant
Dr. C. E. Bradshaw
Mme A. Brouillet
Dr. P. D. Brunet

Dr. N. D. Cabling
Mr. A. R. Campaigne
Dr. C. R. Campbell
Dr. D. D. Campbell
Dr. E. Charland
Dr. E. Charron
Mme E. Charron
Dr. J. A. Christie
Dr. W. F. Clark
Dr. M. A. Clay
Dr. S. F. Compton
Mr. C. W. Conklin
Dr. H. H. Cummer

Dr. D. R. Davies
Dr. F. M. Deans

Dr. R. S. Decker
Dr. C. A. Detlor

Dr. H. M. Eaton
Dr. S. M. Edwards
Dr. C. A. Elliot

Dr. H. T. Fallaise
Mrs. E. Fisk
Dr. L. Fortier

Mme R. Gingras
Dr. M. O. Good
Dr. J. A. Gorchynski
Dr. N. H. Greenberg
Dr. S. E. Greenberg
L'Honorable R. O. Grothé

Dr. W. G. Hart
Dr. W. N. Hayes
Mme M. Hébert
Dr. W. R. Hendry
Mr. E. C. Herring
Dr. A. E. Hilliker
Dr. H. B. Hoar
Mr. E. L. Hoskins

Dr. J. W. Ingram

Mr. J. F. Jelenko, Sr.

Dr. R. H. Kee
Dr. J. I. Kelly
Dr. E. L. Kennedy

Dr. J. Landau
Dr. W. J. Langmaid
Mr. J. H. La Roche
Mr. B. Leake
Dr. A. W. Lindsay
Dr. J. S. Lowther
Miss M. Luke

Mrs. G. B. Macdonald
Dr. K. R. MacIntyre
Mr. F. MacKay
Dr. R. M. MacLean
Dr. L. M. Martin
Mr. W. A. McLaren
Dr. R. G. McLean
Mrs. B. M. McLeod
Dr. K. E. McRae
Dr. P. V. Munn
Dr. A. Muth

Dr. C. A. Nelson

Dr. B. M. Ott

Mme L. Paradis
Dr. F. O. Pauli
Dr. L. Perlman
M. A. Pesant
Dr. J. G. Pilkey
Mme G. Poulin
Dr. R. Poupart
Dr. J. G. Pullar

Dr. F. S. Radway
Dr. W. R. Richardson

Dr. H. G. Robb
Dr. T. I. Robb
Dr. W. J. Robb
Mr. J. C. Robinson
Mr. S. Roblin
M. J. Roy

Dr. J. L. A. Savoie
Dr. W. S. Schwetz
Dr. W. H. Scott
Dr. J. F. Sebben
Mr. A. E. Sinclair
Dr. E. W. Sisson
Dr. W. D. Smith
Dr. W. F. Smith
Dr. E. A. Stewart
Mme L. St-Laurent
Dr. D. M. Stockwell
Dr. F. J. Stodgell
Mrs. W. R. Stuart

Mrs. M. E. Tebbutt
Dr. W. G. Thomas
Mr. G. H. Tobey
Mrs. G. H. Tobey
Dr. R. M. Torrie
Dr. J. E. A. Trelford

Mr. G. D. Watson
Dr. J. G. White
Dr. H. N. Wilkinson
Dr. F. S. Wilson
Mrs. C. L. Windsor
Dr. F. H. Witt
Miss C. Wood

les actualités dentaires

L'Association

L'ADC vote de rénover le Bureau des Gouverneurs

L'Association dentaire canadienne a proposé l'élargissement du Bureau des Gouverneurs de 21 à 32 membres votants et a aussi donné son approbation à d'autres décisions de grande envergure, lors d'une réunion spéciale tenue à Toronto le 31 octobre et le 1er novembre.

Les décisions qui ont été prises représentent le fruit de plusieurs mois de discussions qui ont eu lieu après la Conférence sur les buts et les objectifs de l'ADC du 24-25 février et l'étude des règlements actuels de l'Association.

Les changements qui ont été approuvés par les gouverneurs iront maintenant au Comité de la constitution et des règlements. Celui-ci a été chargé de parfaire ces règlements avant leur présentation aux assises annuelles de l'Association à Winnipeg en juillet 1970.

Quant aux subventions des membres corporatifs à l'ADC, la réunion a en fait réaffirmé la position actuelle qui stipule que toutes les contributions des provinces devraient atteindre le niveau de \$65 par membre aussitôt que possible.

Les gouverneurs ont également approuvé des changements dans la procédure des nominations afin d'intéresser plus de dentistes à participer activement au fonctionnement de l'ADC.

La nouvelle structure du Comité de l'enseignement donnera une représentation bien déterminée aux organismes connexes comme le Bureau national d'examen dentaire du Canada, tout en assurant qu'un nombre raisonnable de praticiens soient également engagés.

Le Bureau des Gouverneurs a résolu qu'une majorité de 19 membres sur 32 membres votants serait requise pour toute décision qui déterminerait une politique de l'Association. Ceci signifie qu'une

prise de position sur une question importante exigera un vote affirmatif de 59 p.c.

Sous réserve de ratification d'ici la réunion de juillet prochain à Winnipeg, le nouveau Bureau des Gouverneurs comprendra trois membres qui n'auront pas le privilège du vote et qui représenteront les services dentaires fédéraux, au lieu d'un membre avec droit de vote comme il en est le cas actuellement.

Les 32 membres votants du nouveau Bureau seront probablement divisés comme suit: le président, le président sortant, et les représentants provinciaux: Ontario, neuf; Québec, six; Colombie britannique et Alberta, trois chacune; Saskatchewan, Manitoba et Nouvelle-Ecosse, deux; Nouveau-Brunswick, Ile-du-Prince - Edouard et Terre-Neuve, un chaque.

Ceci change la représentation qui était auparavant de six pour l'Ontario, trois du Québec, deux de la Colombie britannique et un de chaque autre province.

Le nouvel arrangement donne un siège au Bureau à chaque membre corporatif, ainsi que des sièges supplémentaires basés sur le nombre de dentistes dans la province. La formule employée vise à garantir une représentation plus juste qu'il n'en a été le cas dans le passé.

La subvention de \$65 est essentielle pour exécuter les réformes

L'Association dentaire canadienne continuera à insister pour que les membres corporatifs fixent leurs subventions à l'ADC à \$65. Cette décision a été prise récemment durant la réunion spéciale du Bureau des Gouverneurs qui a examiné des propositions de règlements concernant les revenus de l'ADC.

Le Bureau a donné son approbation à un règlement qui déclare que le revenu de l'Association proviendra des subven-

tions annuelles des membres corporatifs, et que le montant sera déterminé par le Bureau des Gouverneurs de l'ADC.

Il y a eu vive discussion au sujet du montant des subventions parce que les membres corporatifs n'accordent pas tous les mêmes contributions.

Certains membres ont fait ressortir le fait qu'il sera peut-être difficile à l'avenir de maintenir les contributions en provenance d'autres provinces allant jusqu'à \$65 alors que le Québec et l'Ontario ne paient que \$40 par dentiste.

Les gouverneurs n'ont pas spécifié le montant exact des subventions futures, mais l'ADC a officiellement demandé par voie de résolution que toutes les subventions soient fixées à \$65. Le président H. R. MacLean a fait une mise en garde à la conclusion de la réunion, dans laquelle il a déclaré que l'ADC ne peut accomplir certaines réformes comme l'élargissement du Bureau des Gouverneurs, que si l'Association dispose des fonds requis pour financer ces changements.

L'élargissement du Bureau augmentera les dépenses parce que les frais de déplacement d'un plus grand nombre de gouverneurs devront être remboursés. En plus, a-t-il ajouté, le travail du Secrétariat est en train d'augmenter, et du personnel supplémentaire devra être embauché pour venir à bout de ce problème.

"Il incombe donc plus que jamais aux membres corporatifs d'augmenter leurs contributions au niveau de \$65", a déclaré le Dr MacLean.

Décisions sur des questions importantes: l'ADC établit des règles

A l'avenir les décisions concernant des questions importantes exigeront un vote majoritaire minimum de 19 à 13 pour être acceptées par le nouveau Bureau des Gouverneurs de l'ADC. Le Bureau sera élargi, et près de 59 p.c. des membres devront donner leur approbation. Une fois acceptée, une proposition deviendrait cependant la position officielle de l'ADC.

Le vote majoritaire a été décidé lors de la réunion spéciale du Bureau qui a eu lieu le 31 octobre et le 1er novembre.

Le Conseil Exécutif pourra prendre des décisions sur des affaires urgentes à condition que tout le Bureau soit avisé dans un délai de 14 jours, et que la décision est alors présentée pour revision à la prochaine réunion du Bureau.

Le nombre des membres du Conseil Exécutif passera de quatre à cinq membres choisis parmi les gouverneurs, en plus du président, du président désigné et du président sortant.

Les gouverneurs ont aussi pris les dispositions utiles pour réduire l'autorité du Conseil Exécutif dans certains domaines, en exigeant au lieu de cela l'assentiment de tout le Bureau des Gouverneurs.

Le président et le président désigné seront choisis parmi les membres votants et feront partie des officiers élus de l'ADC. Les administrateurs nommés comprendront le Directeur Exécutif, le trésorier et les rédacteurs.

Le titre de "Directeur Exécutif" sera dorénavant attribué au Dr W. G. McIntosh, et remplacera le titre de Secrétaire qu'il portait jusqu'ici.

Les conseils et les comités seront réorganisés en 12 comités permanents embrassant les services auxiliaires, la constitution et les règlements, les services dentaires, l'éducation, l'étiquette professionnelle, l'immeuble du Secrétariat, les services hospitaliers, les assurances, la législation, les nominations, l'hygiène publique et la dentisterie préventive, et la recherche.

En plus, le Comité des communications de l'ADC deviendra un comité permanent et ses attributions seront étudiées durant la prochaine réunion du Bureau.

Les sections de l'ADC seront consacrées à l'endodontie, la chirurgie buccale, l'orthodontie, la pédodontie, la périodontie, la prothèse et — provisoirement pendant trois ans, sous réserve de mesures à prendre par le Bureau des Gouverneurs sur la ratification des spécialités — l'hygiène dentaire et la dentisterie de restauration.

A l'avenir, les amendements aux règlements exigeront l'approbation des deux tiers ou 22 membres du nouveau Bureau des Gouverneurs. Un vote unanime sera requis pour changer un règlement sans un avis préalable de motion.

Changements dans la procédure des nominations

Selon le Président de l'ADC, H. R. MacLean, un plus grand nombre de dentistes seront encouragés à s'intéresser aux affaires de l'ADC grâce aux changements prévus dans la procédure des nominations.

Lors de la réunion spéciale du Bureau le mois dernier, les gouverneurs ont décidé d'élire un comité des nominations comprenant trois membres et le président désigné de l'ADC qui agirait comme directeur du comité.

Au moins trois mois avant les assises annuelles, le comité avisera les membres du Bureau, les directeurs de comités et les secrétaires des membres corporatifs et des sections de l'ADC des postes vacants qui nécessiteraient des nominations.

La sollicitation écrite des nominations cessera deux mois avant le congrès. Le comité décidera de l'éligibilité des candidats, s'assurera de l'inscription d'au moins un candidat pour chaque poste vacant, et exécutera d'autres nominations lorsqu'il le jugera convenable.

La liste finale des nominations sera circulée au moins deux semaines avant les assises annuelles.

Possibilité d'un fonds de placement spéculatif pour les dentistes

Le président du Comité des placements de l'Association dentaire de l'Ontario, le Dr R. M. Singer de Toronto, a été invité à se joindre au Comité des assurances de l'ADC afin d'étudier la possibilité de créer un fonds de placement spéculatif pour la profession dentaire. Cette décision a été prise lors d'une réunion du Comité des assurances les 29-30 septembre au siège social de l'ADC.

Par ailleurs, le comité de l'ADC:

A demandé au Conseil exécutif de nommer deux membres du Comité des placements au poste de représentants de l'ADC au Conseil d'administration du Canadian Dental Service Plans Inc. Ils seraient nommés pour un mandat de trois ans. Le CDSPI gère les polices d'assurance de groupe organisées par l'ADC.

Le Comité des assurances a également autorisé le CDSPI à conserver 5 p.c. des primes perçues comme frais d'administration de ces polices. Cette autorisation est sous réserve de ratification de la part des compagnies d'assurance.

Le président MacLean: l'unité nationale est indispensable

L'unité nationale est absolument indispensable à la profession dentaire, a déclaré le Dr MacLean, président de l'ADC, aux dentistes réunis au cours de deux récents congrès qui ont eu lieu dans l'est du Canada. La profession dentaire ne constitue qu'une minuscule section de la population et elle ne peut pas se permettre de faire entendre pour toute expression un concert d'opinions et de programmes contradictoires dont le public ne tiendrait nullement compte.

Le Dr MacLean s'adressait ainsi aux délégués qui ont participé au congrès des Provinces de l'Atlantique à Charlottetown du 14 au 17 septembre et au congrès de l'Association dentaire de Terre-Neuve à Saint-Jean du 18 au 20 septembre.

Seule, a-t-il déclaré, une organisation nationale peut faire la synthèse des opinions de ses membres et permettre aux dentistes de présenter une attitude commune en ce qui concerne la loi fédérale, l'enseignement et la dentisterie internationale. Seule une organisation nationale peut dialoguer efficacement avec le gouvernement national, avec les autres professions sanitaires qui existent au niveau national et avec les organisations dentaires internationales. Seule une organisation nationale peut mettre au point des normes éducatives et professionnelles qui reflètent le dynamisme de toute une profession et non de petits groupes locaux isolés. Seule une organisation nationale peut communiquer avec chacun de ses membres de sorte que tous peuvent partager les informations dont ils ont besoin pour prendre des décisions.

Une organisation nationale, a dit le Dr MacLean, peut intervenir en faveur des dentistes canadiens avec une efficacité que les organisations locales ne sauraient développer avec leurs propres ressources.

Il a cité en exemple la récente représentation de l'ADC à Ottawa qui a abouti à la révocation de la taxe fédérale de vente sur les matériaux pour empreinte. Cette réalisation seule, a dit le président MacLean, représente une économie de \$60,000 par an pour les dentistes, soit \$9 pour chacun d'entre eux — près du tiers de l'octroi annuel per capita à l'ADC que certains dentistes préconisent.

Le Dr MacLean a également déclaré que la profession doit résolument faire face aux problèmes liés au personnel auxiliaire. "Y a-t-il quelque raison valable pour ne pas observer et tirer profit des pratiques de notre sœur, la médecine, et de déléguer à chaque praticien la responsabilité directe d'assigner les tâches des auxiliaires?" a-t-il demandé.

"Nous possédons d'excellentes facultés dentaires; nous entretenons de bonnes relations avec les autres professions de la santé; nous avons des dentistes compétents, et," a-t-il ajouté "il nous faut une organisation nationale particulièrement vigoureuse".

"Options et Décisions": le Québec et l'ADC

Le Dr Louis Bernier, de Québec, membre du Conseil Exécutif de l'ADC a présenté une conférence intitulée "Options et Décisions" au Mount-Royal Dental Society le 22 octobre à Montréal. Devant plus de cent membres du MRDS qui s'étaient réunis pour une journée d'étude sur l'endodontie, le Dr Bernier a fait le résumé de la position québécoise envers l'Association nationale. Il a fait ressortir la diversité d'opinions qui existent dans la

délégation du Québec elle-même, et a demandé aux sociétés locales de faire connaître leurs opinions afin d'établir un véritable dialogue entre tous les dentistes canadiens et leur Association nationale.

Le Dr Bernier a tracé l'historique de la Conférence sur les buts et les objectifs de l'ADC qui a eu lieu en février et a décrit les discussions qui ont accompagné la révision des règlements de l'ADC. Pour le Québec, les nouveaux règlements signifient que les devoirs des associations provinciales et nationales seront nettement partagés pour le plus grand bien commun.

Après avoir cité un passage de la lettre du Dr Deacon (JADC, septembre 1969, p. 433-4) où celui-ci recommande la mise en commun de nos ressources afin d'établir la coopération lorsqu'un dénominateur commun existe, le Dr Bernier a souligné que la profession dentaire canadienne demeure responsable de la qualité des services dentaires fournis dans notre pays. A cette fin, il est donc nécessaire d'obtenir: (1) l'uniformité de la formation universitaire; (2) l'homogénéité des services dentaires; (3) l'accréditation des facultés dentaires; (4) l'évaluation uniforme des étudiants dentaires par le test d'aptitude; (5) le maintien du grand respect international accordé aux dentistes canadiens.

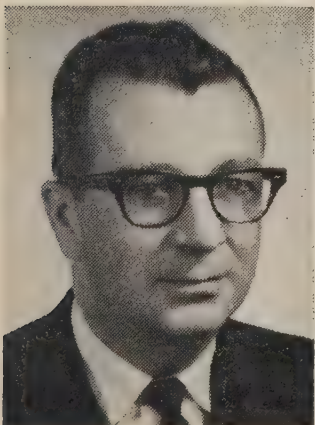
Les provinces n'ont jamais été contraintes d'exécuter les décisions prises par les Gouverneurs de l'ADC, a déclaré le Dr Bernier. La loi du plus fort, la loi de la majorité ne doit jamais être imposée ni par l'ADC ni par les provinces, si nous ne voulons pas voir la démocratie prise d'assaut au sein même de notre profession.

Première Conférence nationale des étudiants dentaires

La première Conférence nationale des étudiants dentaires du Canada a réuni les délégués estudiantins des diverses facultés dentaires canadiennes au Secrétariat de l'ADC du 19 au 22 novembre.

La conférence avait été organisée par le Conseil de l'enseignement de l'ADC et était commanditée par le Fonds canadien pour l'enseignement dentaire.

Parmi les thèmes abordés à la confé-



Le Dr Louis Bernier

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du régime d'épargne-retraite de l'Association dentaire canadienne étaient les suivantes au 31 octobre:

Fonds d'obligations gouvernementales \$13.753;

Fonds d'obligations corporatives \$14.944;

Fonds d'actions ordinaires \$25.716.

L'avoir total (valeur marchande) du régime se montait à \$9,642,194.35.

Au cours du mois précédent, les transactions d'actions ordinaires ont été les suivantes: vente 2,550 actions de Equity Funding Corp. of America et 4,300 actions de Dillingham Corp.

Pour de plus amples renseignements, veuillez écrire à: Régime d'assurance et de retraite de l'Association dentaire canadienne, 230 St. George St., Toronto 180, Ont.

rence, citons: les organisations politiques dentaires, le projet d'inscription des étudiants à l'ADC, l'appui financier aux étudiants dentaires, les relations entre professeurs et étudiants, la participation des étudiants aux sciences fondamentales et cliniques et aux cliniques de table lors des congrès.

Les étudiants ont aussi visité le Secrétariat de l'ADC et la Faculté de chirurgie dentaire de l'université de Toronto.

La conférence était placée sous la présidence de D. J. Kenny, étudiant en quatrième année à l'université Western Ontario.

Le Canada

Une primeur canadienne: la conférence sur les effectifs des professions de santé

Le doyen W. J. Dunn de l'université Western Ontario a représenté l'Association dentaire canadienne à la Conférence nationale sur la main-d'œuvre sanitaire qui s'est tenue à Ottawa les 7 et 8 octobre. Le ministère fédéral de la Santé et du

Bien-être avait contribué à l'organisation de la conférence. Les représentants de diverses professions de santé, universités et organismes sanitaires provinciaux y étaient invités.

Environ 200 représentants des différents domaines de la santé ainsi que des délégués de groupes de consommateurs ont assisté à la réunion. Parmi les organismes invités à se faire représenter citons l'Association dentaire canadienne, l'Association médicale canadienne et l'Association des Infirmières du Canada. Des invitations furent aussi envoyées à des groupes de consommateurs tels que le Congrès du Travail du Canada, l'Association des Consommateurs du Canada, la Chambre de Commerce du Canada, le Conseil de Bien-être du Canada, la Ligue de Santé du Canada, la Fédération des Maires et des Municipalités du Canada et la Fédération canadienne de l'Agriculture.

La réunion avait pour but d'obtenir des suggestions quant à l'amélioration des ressources humaines dans les professions de santé et les professions connexes. Les participants ont étudié les moyens d'assurer des services de santé complets au cours de la prochaine décennie, l'évaluation de la qualité et de la quantité des effectifs sanitaires nécessaires pour mener à bien cette tâche, et enfin, la formation de ce personnel.

Le Canada doit enrayer l'émigration des professions libérales

Une enquête financée par le ministère fédéral de la Main-d'œuvre et de l'Immigration a suggéré au gouvernement de réexaminer son programme d'aide aux études post-universitaires aux États-Unis. Cet appui pousse souvent ceux qui exercent des professions libérales à s'établir aux USA.

Le document recommande au Canada de favoriser le rapatriement de ces émigrés en payant leurs frais de voyage et leurs droits de douane et en les aidant à se loger.

Le rapport souligne que le taux d'émigration est assez élevé pour annuler les épargnes réalisées dans les frais d'enseignement et que le Canada court de

grands risques en envoyant ses étudiants à l'étranger.

L'enseignement dentaire

Réunion de l'Association des facultés

Lors d'une réunion tenue à Québec les 23 et 24 septembre 1969, l'Association des facultés dentaires du Canada a décidé de s'affilier à l'Association des Universités et Collèges du Canada. Par ailleurs, la nouvelle section de chirurgie dentaire de l'Université Laval a été reçue comme membre de l'AFDC.

Le Dr Jean-Paul Lussier, doyen de la Faculté de chirurgie dentaire de l'Université de Montréal garde sa charge de président pendant un an encore. Le vice-président est M. A. Rogers de Montréal; le secrétaire-trésorier, D. V. Chaytor de Halifax. R. V. Blackmore d'Edmonton et J. D. McLean de Halifax ont été élus membres du Conseil exécutif.

La prochaine réunion de l'AFDC doit avoir lieu du 24 au 26 juin 1970 à Vancouver. On y débattrà entre autres de la recherche pédagogique en dentisterie et du rapport entre l'enseignement dentaire et les services dentaires fournis à la population canadienne.

L'économie

Les Créditistes adoptent le principe d'un dividende-santé

Lors du congrès du début du mois d'octobre, le Ralliement des Créditistes a adopté la résolution suivante: "Il est proposé que chaque citoyen bénéficie d'un dividende-santé, afin de sauvegarder la liberté de l'individu qui doit avoir le droit de choisir son médecin".

La présidente nationale des dames, Mme Henri Borgia, avait au préalable soumis à l'assemblée générale une résolution proposant que chaque citoyen bénéficie des privilèges de "l'assurance-maladie" avec choix du médecin et gratuité des médicaments. Certains congressistes ont immé-

diatement souligné qu'il s'agissait là d'une mesure socialiste, contraire à la doctrine du crédit social.

Le chef du parti, M. Réal Caouette a alors rappelé que le RC se cherchait une solution créditiste à l'assurance-maladie, soit le dividende-santé qui serait une sorte de prime annuelle que le gouvernement paierait aux citoyens. Ceux-ci choisiraient ensuite eux-mêmes leur compagnie d'assurance et économiseraient près de 40 p.c. sur ce qu'ils paient présentement.

A la suite de l'intervention de M. Caouette, le président de l'assemblée a signalé aux congressistes qu'une erreur typographique s'était glissée dans la résolution et que Mme Borgia avait voulu dire non pas assurance-maladie, mais bien dividende-santé.

Recyclage des dentistes tchèques

Les 16 dentistes tchécoslovaques qui avaient échoué aux examens de licence du Collège royal des chirurgiens-dentistes de l'Ontario au début de l'année ont commencé un cours de recyclage à l'université Western Ontario au mois de septembre. Ils espèrent que ce cours les préparera à obtenir une licence pour exercer en Ontario.

Ces 16 dentistes (9 hommes et 7 femmes) étaient arrivés au Canada après l'invasion de la Tchécoslovaquie l'année dernière.

Bien que les cours ont lieu dans les locaux de l'université Western Ontario, les professeurs ne participent pas à l'enseignement qui a été confié aux officiers dentaires de la Base des Forces canadiennes de Borden.

Chacun des 16 dentistes s'est engagé par écrit à exercer au moins trois ans dans une région sans dentiste de l'Ontario après avoir réussi les cours à Western.

Le Brigadier-Général des Services dentaires des Forces canadiennes évalue le coût du projet à quelque \$160,000. Cette somme sera défrayée par le gouvernement de l'Ontario. Le gouvernement fédéral verse une allocation qui permet aux Tchèques de subsister. Il a également payé les frais de déménagement de Toronto à London et a organisé des cours du soir d'anglais.

Contrat d'assurance dentaire de la London Life

La compagnie d'assurance London Life annonce qu'elle offre une nouvelle formule d'assurance dentaire en vente à des groupes de 10 personnes ou plus partout au Canada. Les prestations dentaires complètent l'assurance "Healthguard" de la London Life qui fournit une protection médicale dépassant la garantie de base des régimes provinciaux d'assurance-maladie.

Les avantages dentaires de base du régime Healthguard comprennent le paiement des prestations pour les examens ordinaires, les radiographies, les obturations, les extractions, le détartrage et le nettoyage des dents, les applications locales de fluorure et le traitement des lésions périodontales.

Deux options supplémentaires prévoient (a) le traitement orthodontique ou (b) les incrustations, couronnes, ponts, dentiers, et traitement des canaux. Les prestations de la formule Healthguard paient la moitié du coût de ces soins. Le paiement des indemnités est fondé sur les honoraires entiers établis par les associations dentaires provinciales.

La fluoration

La fluoration diminue le coût des traitements correctifs

Un responsable de l'hygiène publique de l'état de New York a déclaré le 12 octobre, lors du congrès annuel de l'Association dentaire américaine à New York, que la fluoration réduit de moitié le coût des traitements dentaires correctifs chez les enfants qui bénéficient de cette mesure dès la naissance.

Le Dr D. B. Ast, d'Albany, New York, a comparé les résultats d'une étude qui a duré six ans portant sur les soins dentaires ordinaires dispensés aux enfants de la ville de Newburgh dont l'eau est fluorée et ceux de la ville non-fluorée de Kingston, dans l'état de New York.

"Les soins correctifs chez les enfants qui ont consommé l'eau fluorée toute leur vie coûtent moins de la moitié de ce qu'ils

coûtent dans un endroit non-fluoré et les soins supplémentaires ne sont environ que la moitié".

Le Dr Ast a remarqué que 157 enfants de Newburgh sur 387 étaient complètement exempts de carie contre 63 enfants seulement sur 379 de la ville de Kingston.

"En ce qui concerne la progression de la maladie, lors de l'examen initial et lors de chaque année supplémentaire les enfants de Kingston ont eu besoin de plus de restaurations que ceux de Newburgh. Cela se retrouve dans le coût des soins correctifs et les heures de traitement, où le coût est plus du double à Kingston et les heures de traitement plus d'une fois et demie celles de Newburgh", a-t-il expliqué.

Le Dr Ast a déclaré qu'une étude semblable effectuée en Nouvelle-Zélande confirmait ces observations.

Edmunston, première ville du Nouveau-Brunswick à fluorer l'eau potable

Edmunston sera la première ville du Nouveau-Brunswick à fluorer son service des eaux.

La décision a été prise à la fin septembre lorsque le conseil municipal de la ville eut appris que le ministère provincial de la Santé contribuerait pour moitié aux frais d'installation de l'équipement de fluoration, jusqu'à concurrence de \$4,000.

Le conseil a immédiatement approuvé la proposition d'installer l'outillage de fluoration dont le coût est évalué à \$4,879.

L'eau sera fluorée à Noranda

Le conseil municipal de la ville de Noranda a résolu de procéder à l'installation des facilités permettant la fluoration de l'eau. Le président de l'assemblée et maire, le Dr A. Juneau, a été appelé à briser l'égalité du vote (2-2) en faveur de la fluoration.

L'outillage qui devra être installé à l'usine de filtration coûtera entre \$7,000 et \$7,500 et sera subventionné par le ministère de la Santé du Québec.

impôt sur le revenu

Déclaration fédérale d'impôt sur le revenu

Le Ministère du Revenu national a révisé les instructions suivantes, qui ont pour but d'aider les dentistes à préparer leur déclaration annuelle, pour l'imposition sur le revenu.

LE REVENU

Chaque dentiste doit tenir un compte exact des revenus qu'il retire de sa profession (honoraires) et d'autres sources (placements, loyers de biens immobiliers, etc.). Les comptes doivent être clairs et susceptibles d'être comparés rapidement à la déclaration remise. Les comptes doivent être tenus dans des livres à cet effet, lesquels doivent être conservés tant que le dentiste ne reçoit pas la permission écrite de s'en défaire du ministre du Revenu national.

LES FRAIS

Les postes suivants devraient figurer sous la rubrique des frais, et on doit conserver aux fins de vérification les documents à l'appui des dépenses qui y sont portées:

(a) Fournitures dentaires et assimilées.

(b) Préposé à l'entretien, infirmière, comptable, blanchisserie et assurance contre la négligence professionnelle:

Le montant des appointements et salaires payés doit être déclaré sur des feuillets T4-T4A sommaires et T4 supplémentaires, fournis par le Bureau de dis-

trict de l'impôt sur le revenu. (La Loi de l'impôt sur le revenu n'autorise pas la déduction d'un salaire payé par le mari à la femme ou vice versa. Si une telle somme est versée, elle doit être rajoutée au revenu du payeur.)

(c) Frais de téléphone liés à l'exercice de la profession.

(d) Salaire d'assistante:

Les noms et adresses des assistantes auxquelles un salaire est payé, ainsi que le montant payé, doivent être déclarés chaque année, au plus tard le dernier jour de février, sur les feuillets T4-T4A sommaires et T4A supplémentaires. (Ne pas confondre avec la déclaration d'impôt individuelle, la formule T1, qui doit être envoyée au plus tard le 30 avril de chaque année.)

(e) Frais de loyer:

On doit fournir le nom et l'adresse du propriétaire des locaux loués (de préférence) ou de l'agent [voir (g)]. On doit percevoir à la source une taxe de non-résident sur le loyer payé à des propriétaires non-résidents de locaux loués.

(f) Frais de poste et papeterie.

(g) Dépenses proportionnelles du dentiste exerçant à son domicile:

1. La résidence appartient au dentiste: Quand le dentiste exerce dans une maison qu'il possède et qu'il habite, il a droit, pour la surface occupée par le laboratoire, le cabinet et la salle d'attente, à une déduction proportionnelle des dépenses de la maison calculée d'après le rapport de cette surface à la superficie totale de la maison. Les frais comprennent les taxes, l'électricité, le chauffage, l'assurance, les réparations et l'intérêt hypothécaire. (Les

nom et adresse du créancier hypothécaire doivent être mentionnés.) N.B. — Voir article 2 (m) pour la dépréciation.

2. La résidence est louée par le dentiste: Le loyer est alors divisé proportionnellement s'il est payé par le dentiste. Le propriétaire de la maison assume toutes les dépenses mentionnées ci-dessus (paragraphe 1).

(h) Frais divers (ne figurant pas ailleurs):

Les frais portés à ce poste doivent se prêter à l'analyse et être étayés par des documents.

La déduction de dons de charité est autorisée jusqu'à 10 pour cent du revenu net total, à condition de fournir les reçus au Bureau de district de l'impôt. Les dons de charité effectués dans l'exercice de la profession ne doivent pas être classés avec les frais professionnels, ils constituent, comme toutes les autres formes de dons, une déduction du revenu général.

Les droits annuels payés aux organismes de réglementation qui accordent l'autorisation de pratiquer, ainsi que les cotisations d'association doivent être inscrits sur la déclaration comme frais professionnels.

Les frais de scolarité payés en 1965 et les années suivantes à une maison d'enseignement au Canada, pour un cours post-universitaire, sont déductibles, mais on ne peut pas déduire les dépenses de voyage et d'entretien occasionnés par un tel cours.

(i) L'intérêt versé sur une somme empruntée peut être soustrait du revenu professionnel si l'emprunt a été fait pour des besoins professionnels. Si la somme a été empruntée pour effectuer un placement, l'intérêt est déductible du revenu de placements. L'intérêt payé sur un emprunt effectué à des fins personnelles ne donne lieu à aucune déduction sur le revenu.

(j) La taxe d'affaire constitue une dépense professionnelle, mais non les impôts sur le revenu.

(k) Frais d'automobile:

Les dépenses de taxi et d'automobile encourues en gagnant le revenu professionnel sont déductibles lorsque le dentiste doit rendre visite au patient à domicile. Cependant le coût du transport entre le domicile du dentiste et son cabinet n'est pas déductible du revenu. (La façon de

calculer la réclamation des dépenses d'automobiles est exposée dans le Bulletin de renseignements No 28 de la Division de l'impôt du ministère du Revenu national. Elle a été partiellement reproduite dans le numéro de mars 1965 du Journal, pp. 209-210.)

(1) Les cotisations des clubs mondains ne constituent une déduction du revenu que lorsque, et dans la mesure où, elles sont versées pour des raisons professionnelles, et tout dentiste qui les déduit peut être requis de prouver à la satisfaction des autorités fiscales que les sommes réclamées ont été dépensées entièrement et directement dans le but d'accroître son revenu professionnel. Les 'cotisations de clubs sociaux' représentent les cotisations ou droits, annuels ou mensuels, des membres; elles ne comprennent pas les droits d'admission ou d'entrée, ni l'achat d'une part du capital social d'un club, ni les frais de nourriture, de boisson ou de logement, ni les droits versés pour y recevoir des invités et autres du genre.

(m) Allocation du coût en capital (dépréciation):

La façon de calculer l'allocation du coût en capital aux fins de l'impôt est la même que celle de l'année dernière. Cependant, des modifications apportées aux Règlements de l'impôt sur le revenu ne permettront aux dentistes (et aux autres contribuables) de réclamer l'allocation de coût en capital que sur la moitié seulement des biens figurant dans les classes 3 (maison de brique — cabinet ou résidence servant et de domicile et de cabinet), 6 (maison de bois — cabinet ou résidence servant et de domicile et de cabinet) et 8 (matériel dentaire et instruments de \$100 ou plus, mobilier et accessoires de cabinet), qui ont été acquis après le 29 mars 1966 et avant le 1er avril 1967. D'ordinaire une telle réduction ne sera pratiquée qu'au cours de l'année fiscale pendant laquelle les biens ont été acquis et au cours des deux années fiscales suivantes.

Pour tous renseignements supplémentaires, consultez les Règlements ou le Bureau de district de l'impôt.

FRAIS DE CONGRÈS

Les frais des congrès sont déductibles pour celui qui exerce une profession, mais

l'allocation est limitée aux frais de deux congrès par année fiscale. La participation du contribuable au congrès doit se fonder sur des motifs professionnels. Les dépenses déductibles doivent être raisonnables et le contribuable doit indiquer:

1. Les dates auxquelles ou entre lesquelles le congrès s'est tenu, et le lieu.

2. Le nombre de jours de présence, justifié par un certificat de présence délivré par l'organisme responsable du congrès.

3. Les frais encourus, en distinguant les frais (a) de voyage, (b) de repas, (c) d'hôtel, à l'appui desquels on doit demander et conserver au moins les reçus.

Toutes les dépenses de nature personnelle, y compris celles qui seraient entraînées par la présence au congrès de l'épouse (ou du mari) du contribuable sont exclues de ce qui précède.

Les frais de participation à un congrès ne peuvent pas être déduits du revenu si celui-ci est un salaire; une telle déduction est alors interdite par l'article 5 de la Loi.

Le Ministère du revenu national a exprimé l'opinion que, généralement, le but professionnel d'un congrès commandité par une firme commerciale ou une organisation professionnelle canadienne, ne demande pas qu'il se tienne en dehors du Canada, lorsque l'organisation a un caractère national ou en dehors de la province, de la municipalité ou de la région du Canada où se limitent les activités de l'organisation. En conséquence, les dépenses encourues par suite de la participation à un congrès commandité par une organisation canadienne, qui s'est tenu en dehors de ces limites géographiques, ne sont généralement pas considérées comme déductibles pour le calcul du revenu. A cette fin, un congrès qui s'est tenu à l'occasion d'une croisière sera considéré comme ayant eu lieu en dehors du Canada.

fonds de pension enregistré, (qu'il cotise au fonds de pension ou non)—à \$1,500 ou 20 pour cent du revenu gagné, moins le montant, s'il y en a un, qu'il est autorisé à déduire de son revenu pour sa contribution au fonds de pension.

(b) Dans les autres cas, au moindre de \$2,500 ou de 20 pour cent du revenu gagné. Le 'revenu gagné' comprend d'ordinaire le salaire perçu (avant toute déduction pour pension) ou le revenu provenant d'un commerce ou de l'exercice d'une profession, plus les revenus nets de loyers.

Sont déductibles les sommes qui ont été versées en 1969 et pendant 60 jours après la fin de l'année. Un versement effectué en janvier ou février 1969 ne peut pas être déduit en 1969 s'il aurait pu l'être en 1968.

Pour savoir si un régime futur ou existant donne droit à la déduction, on doit se renseigner auprès de la société qui offre le régime, car c'est elle qui normalement est responsable d'expliquer le régime et de le faire enregistrer.

Les dentistes qui ont demandé à bénéficier du régime d'épargne-retraite de l'Association dentaire canadienne (RERADC) avant le 15 février 1970 sont assurés qu'ils sont inscrits comme cotisants à un régime d'épargne-retraite enregistré et que leur contribution est déductible pour l'année fiscale 1969. La date limite des inscriptions et des contributions pour 1969 est fixée au 15 février 1970.

Un état de compte personnel et un reçu indiquant le montant des contributions seront adressés à chaque cotisant en mars 1970, à l'appui des déductions réclamées dans la déclaration d'impôt sur le revenu pour 1969.

Les demandes d'inscription au RERADC reçues après le 15 février 1970 donnent droit à la prorogation de l'impôt pour 1970.

RÉGIMES D'ÉPARGNE-RETRAITE ENREGISTRÉS

Le montant déductible pour ceux qui contribuent à un régime d'épargne-retraite enregistré se limite:

(a) Dans le cas d'un employé percevant un salaire et couvert par un plan ou un

PAIEMENT DE L'IMPÔT

Les particuliers qui retirent plus de 25 pour cent de leur revenu de sources autres qu'un traitement ou un salaire sont requis de payer l'impôt de chaque année par versements trimestriels au cours de

l'année, aux dates suivantes: 31 mars, 30 juin, 30 septembre et 31 décembre.

DENTISTES RÉMUNÉRÉS PAR CONTRAT

La loi de l'impôt sur le revenu autorise à déduire certains frais d'un revenu constitué par un traitement.

Les frais déductibles comprennent: les frais de déplacement, les cotisations professionnelles, le loyer de bureau, le salaire d'un assistant ou de son suppléant, les fournitures nécessaires à l'exercice de la fonction de l'employé.

Certaines conditions sont attachées à la déduction des frais. Les dispositions de la loi sont, en gros:

(a) Que les frais aient été encourus dans l'exercice des fonctions de l'employé.

(b) Que le contrat d'emploi stipule que les frais sont à la charge de l'employé.

(c) Pour réclamer les frais de déplacement, que l'employé soit contraint d'exercer les fonctions de son emploi loin du lieu d'affaires de son employeur. Les déplacements entre le domicile du dentiste et son cabinet sont exclus.

REVENU D'UNE SOCIÉTÉ

Les dépenses supplémentaires encourues par un associé et qui n'ont pas été payées par la société peuvent être déduites de la part de revenu de l'associé. Cependant

l'associé doit être en mesure de justifier ces dépenses, d'expliquer pourquoi elles n'ont pas été assumées par la société et de montrer qu'elles ont été entreprises nécessairement pour gagner le revenu de la société.

IMPÔT PROVINCIAL DES PARTICULIERS

Chacune des 10 provinces lève son propre impôt sur le revenu des particuliers qui y résident. Les particuliers dont le revenu est soumis à l'impôt provincial ne sont pas tenus d'envoyer une déclaration provinciale d'impôt sur le revenu séparément, excepté pour la province de Québec.

FRAIS MÉDICAUX

Pour les années d'imposition 1969 et suivantes, un contribuable, en faisant le calcul de son revenu imposable, ne peut inclure dans les frais médicaux des frais qu'il a acquittés lui-même ou qui ont été acquittés en son nom par son représentant juridique, lorsque le contribuable ou tel représentant s'est fait rembourser ou est en droit de se faire rembourser ces frais en vertu d'un régime d'assurance de soins médicaux établi conformément à une loi votée par le Parlement d'une province qui satisfait au critère stipulé dans le paragraphe (1) de l'article 4 de la Loi sur les soins médicaux.

income tax

Federal income tax returns by dentists

The Department of National Revenue has reviewed the following instructions to assist dentists in the preparation of their annual income tax returns.

INCOME

There should be maintained by every member of the dental profession an accurate record of income received from his profession (fees) and from other sources (investments, real estate rentals, etc.). The record should be clear and capable of being rapidly checked against the return filed. Records should be maintained in books kept for the purpose which should be retained until written permission for their disposal is obtained from the Minister of National Revenue.

EXPENSES

Under the heading of expenses the following accounts should be maintained and records kept available for checking purposes in support of charges made:

(a) Dental and like supplies.

(b) Office help, nurse, bookkeeper, laundry and malpractice insurance premiums:

Amounts of salaries and wages paid should be reported on Forms T4-T4A

Summary and T4 Supplementary, obtainable from your District Income Tax Office. (The Income Tax Act does not allow as a deduction a salary paid by a husband to a wife or vice versa. Such amount, if paid, is to be added back to income of the payer.)

(c) Telephone expenses incurred in connection with professional practice.

(d) Assistant's fees:

The names and addresses of the assistants to whom fees are paid, and amounts paid, should be furnished on or before the last day of February in each year on Forms T4-T4A Summary and T4A Supplementary. (Do not confuse with individual return of income, Form T1, to be filed on or before April 30 in each year.)

(e) Rentals paid:

The name and address of the owner (preferably) or agent of the rented premises should be furnished. [See (g).] Non-resident tax must be withheld at source from rent paid to non-resident owners of rented premises.

(f) Postage and stationery.

(g) Proportional expenses of dentists practising from their residences:

1. Owned by the dentist: Where a dentist practises from a house he owns and as well resides in, a proportionate allowance of house expenses will be given for the laboratory, office and waiting room space, on the basis that this space bears to the total space of the residence. The charges cover taxes, light, heat, insurance, repairs, and interest on mortgage. (Name and address

of mortgagee to be stated.) Note: For depreciation see item 2 (m).

2. Rented by the dentist: The rent will be apportioned if paid by the dentist; the owner of the premises takes care of all other expenses mentioned in (1) above.

(h) Sundry expenses (not otherwise classified):

The expenses charged to this account should be capable of analysis and supported by records.

Claims for charitable donations will be allowed up to 10 per cent of net income from all sources upon submission of receipts to your District Income Tax Office. Charitable donations made through professional practice should be excluded from professional expenses and claimed as a deduction from income generally, along with any donations made otherwise.

The annual dues paid to governing bodies under which authority to practise is issued and membership association fees, to be recorded on the return, will be admitted as a charge.

For 1965 and subsequent years, tuition fees paid to an educational institution in Canada for a postgraduate course are an allowable deduction, but no deduction may be made in respect of travelling or living expenses incurred in connection with the taking of such a course.

(i) Interest paid on borrowed money may be charged against professional income if the borrowing was for professional purposes. If the money was borrowed to acquire investments, the interest is chargeable against the investment income. If the loan was for personal purposes no deduction from income will be allowed for the interest paid thereon.

(j) Business tax will be allowed as an expense but income taxes will not be allowed.

(k) Automobile expenses:

Taxi fares and automobile expenses incurred in earning the income from the dental practice will be allowed when the dentist must visit the patients at their homes. The cost of transportation between the dentist's home and his office, however, is not an allowable deduction from income. (The manner of calculating claims for automobile expenses is de-

scribed in Information Bulletin No. 28 issued by the Taxation Division of the Department of National Revenue and reprinted in part on pages 209-210 of the March 1965 issue of the Journal.)

(1) Social club dues are allowable as deductions from income only when, and to the extent that, they are paid for business purposes, and any dentist claiming them may be required to prove, to the satisfaction of the taxation authorities that the amount claimed was expended wholly and directly for the purpose of increasing his business income. 'Social club dues' means annual or monthly membership dues or fees; it does not include an initiation or entrance fee or the cost of a share of a club's capital stock, nor does it include charges for food and drink, living accommodation, fees for the introduction of guests and the like.

(m) Capital Cost Allowance (Depreciation):

The method of computing capital cost allowance for tax purposes is the same as that used last year. However, due to changes in the Income Tax Regulations, dentists (and other taxpayers) will be allowed to claim capital cost allowances on one-half, only, of the cost of assets in classes 3 (brick building — office or residence used both as dwelling and office), 6 (frame building — office or residence used both as dwelling and office), and 8 (dental equipment including instruments each costing \$100 or more; office furniture and fixtures) which were acquired after March 29, 1966 and before April, 1967. Such a reduction ordinarily will be made only in the taxation year in which the property was acquired and in the two immediately following taxation years.

For further information on the subject you may refer to the Regulations or you may consult your District Income Tax Office.

CONVENTION EXPENSES

Convention expenses are allowable to an individual practising a profession, but the allowance is restricted to the expense of attending no more than two conventions in a taxation year. The taxpayer's

attendance at the convention must have been for professional reasons. The expenses to be allowed must be reasonable and the taxpayer should show:

1. The dates on or between which the convention was held, and the location thereof;

2. The number of days he was present at the convention, supported by a certificate of attendance from the sponsoring organization; and

3. The expenses incurred, segregating (a) transportation expenses, (b) meals, and (c) hotel expenses, for which at least vouchers should be obtained and kept available for inspection.

All expenses of a personal nature including those attributable to the fact that the taxpayer's wife (or husband) accompanied him to the convention must be excluded from the foregoing.

No expenses for attending a convention are allowable as a deduction from salary income, since such a deduction is prohibited by Section 5 of the Act.

The Department of National Revenue has expressed the view that, ordinarily, the business purpose of a convention sponsored by a Canadian business or professional organization does not require that it be held outside Canada, where the organization is national in character, or outside a particular province, municipality or other area in Canada where the activities of the organization are limited in scope to such an area. Consequently, expenses incurred in attending a convention sponsored by a Canadian organization that is held outside those geographical limits will normally be viewed as not deductible in computing income. For this purpose, a convention held during an ocean cruise will be viewed as being held outside Canada.

\$1,500 or 20 per cent of his earned income, minus the amount, if any, he is allowed to deduct from income for his contribution to the pension fund.

(b) In other cases, to the lesser of \$2,500 or 20 per cent of his earned income. 'Earned income' usually consists of income received as salary (before any pension deductions) or income from carrying on a business or profession, plus net rental income.

The amounts deductible are those paid in 1969 and within 60 days after the end of the year. A payment made in January or February 1969 cannot be claimed in 1969 if it could have been deducted in 1968.

Individuals inquiring whether a proposed or existing plan is acceptable should usually obtain that information from the corporation offering the plan as it will normally be the corporation's responsibility to explain the plan and get it registered.

Dentists who have applied for membership in the Canadian Dental Association Retirement Savings Plan prior to February 15, 1970 may be assured that their names are registered as participants in a registered retirement savings plan and that their contributions are deductible for the taxation year 1969. The closing date for applications and contributions applicable to 1969 is February 15, 1970.

A personal statement of account and a receipt showing the amount of contributions will be mailed in March 1970 to each participant to support claims made for deductions in 1969 income tax returns.

Applications for membership in CDARSP received after February 15, 1970 will entitle participants to tax deferment for 1970.

REGISTERED RETIREMENT SAVINGS PLANS

The amount that is deductible in respect of contributions to a retirement savings plan is limited:

(a) In the case of an employee receiving a salary who is covered by a registered pension fund or plan (whether or not he contributes to the pension fund) to

PAYMENT OF TAX

Individuals whose income is more than 25 per cent derived from sources other than salary or wages are required to pay the tax for each year by quarterly instalments during such year on the following dates, March 31, June 30, September 30 and December 31.

DENTISTS UNDER SALARY CONTRACT

The Income Tax Act provides for the deduction of certain expenses from salary income.

The allowable expenses include travelling expenses, annual professional membership dues, office rent, salary to an assistant or substitute and supplies consumed directly in the performance of the duties of employment.

Certain conditions are attached to the allowance of the expenses. Without trying to recite the exact provisions of the law the main points are:

(a) That the expenses must have been incurred in the performance of the duties of the office for employment.

(b) That the employee is required under the contract of employment to pay the expenses.

(c) To claim travelling expenses the employee must be ordinarily required to carry on the duties of his employment away from his employer's place of business. Travelling between the dentist's home and his office is not included.

INCOME FROM A PARTNERSHIP

Additional expenses incurred by a partner, but not charged to the partnership, may be claimed as a deduction from the

partner's share of income. However, the partner must be in a position to substantiate these expenses, to show why they were not charged to the partnership and that they were necessarily laid out to earn partnership income.

PROVINCIAL TAXES ON INDIVIDUALS

Each of the 10 provinces imposes its own tax on the income earned by an individual in that province. With the exception of the province of Quebec, no separate provincial income tax return need be filed by an individual whose income is subject to provincial tax.

MEDICAL EXPENSES

For 1969 and subsequent taxation years, a taxpayer in computing taxable income may not include in medical expenses any expense paid by or on behalf of the taxpayer or his legal representative for which the taxpayer or such representative has been reimbursed or is entitled to be reimbursed pursuant to a medical care insurance plan established pursuant to an act of the legislature of a province that satisfies the criteria set forth in subsection (1) of Section 4 of the Medical Care Act.

Equilibration in Bali—Tooth filing is a ritual every Balinese must undergo to qualify for eventual cremation, lest the gods mistake him for a fanged demon and deny him entrance to the spirit world. The ritual, performed for both sexes, protects against *sadripu*, the evil in human nature. A priest rubs a gold ring on the subject's lips; then he wields his tapered file. Metal screeches against enamel; white dust flecks the priest's dexterous hands. At last he grinds down the six upper front teeth until all are even. When the nerve-tingling — but almost painless — ritual ends, the subject admires the added beautification.—*National Geographic Magazine*.

surgical management of mandibular deformities

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Early surgical treatment of mandibular deformities (prognathism, retrognathism and apertognathia) is both feasible and highly desirable. Surgical correction of jaw deformities can also improve masticatory function in older persons. Therefore the general practitioner, who encounters these patients, should be familiar with the evaluation and subsequent management of these deformities.

Le traitement chirurgical, à un jeune âge, des malformations de la mandibule (prognathisme, rétrognathie et béance) est à la fois possible et très avantageux. La correction chirurgicale des difformités de la mâchoire peut aussi améliorer la mastication chez les personnes âgées. Par conséquent, l'omnipraticien qui a affaire avec ces patients se doit de connaître les méthodes d'évaluation et la manière de traiter ces difformités.

This article describes some of the factors which are significant in the evaluation and subsequent surgical management of malformations of the mandible. The three principal types of mandibular deformity are prognathism, retrognathism and apertognathia.

This article describes some of the factors which are significant in the evaluation and subsequent surgical management of malformations of the mandible. The three principal types of mandibular deformity are prognathism, retrognathism and apertognathia.

Prognathism. — This is the commonest type of deformity encountered (Figure 1). Typical prognathism is mainly due to increased activity in the condylar growth centres with resultant lengthening of the mandible. Sometimes pituitary tumours may also cause prognathism. The defect may be unilateral or bilateral, the latter being more common. Excessive growth in bilateral deformities is rarely uniform; indeed, symmetrical prognathism is relatively uncommon.

Unilateral prognathism is marked by a shift of the midline of the mandible to the normal side. Another variation of unilateral deformity can produce downward bowing of the affected side of the mandible (Figure 2). Teeth on that side are then entirely out of occlusion.

Relative (or 'false') prognathism occurs when the maxilla is underdeveloped and retrusive. The entire middle face is then pinched and set back, giving a 'dish-face'



FIGURE 1 Mandibular prognathism. Top row: pre-operative and post-operative view. Second and third rows: pre-operative and postoperative profile and front view.

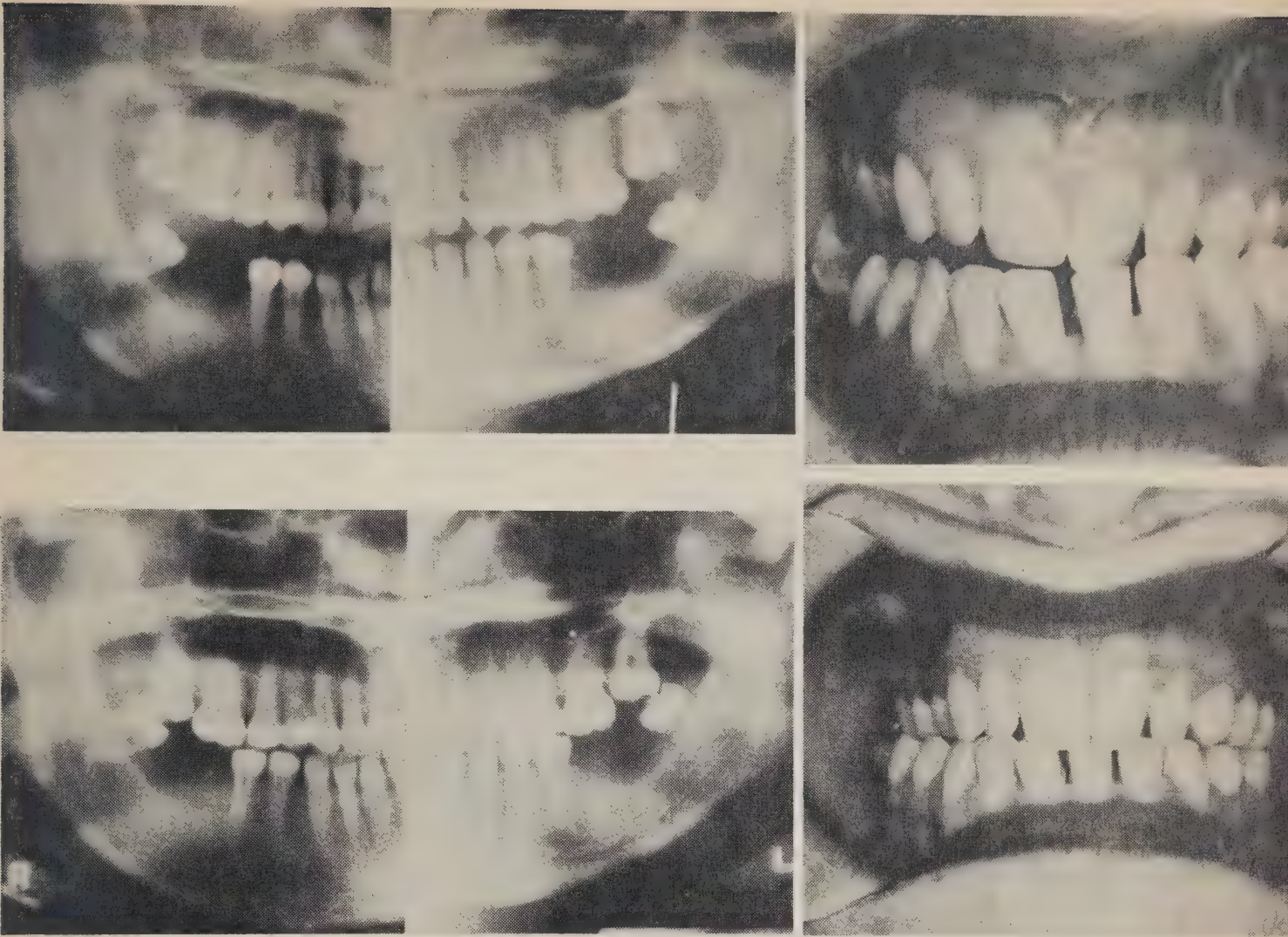


FIGURE 2 Unilateral prognathism with contralateral crossbite and downward bowing of the affected side. Left: pre-operative and postoperative panoramic radiographs. Right: pre-operative and postoperative occlusion.

appearance. The space between the maxillary tuberosity and the anterior border of the ascending ramus of the mandible is

also sharply diminished. The mandible is usually of normal size and the disproportion is due principally to the underdevel-

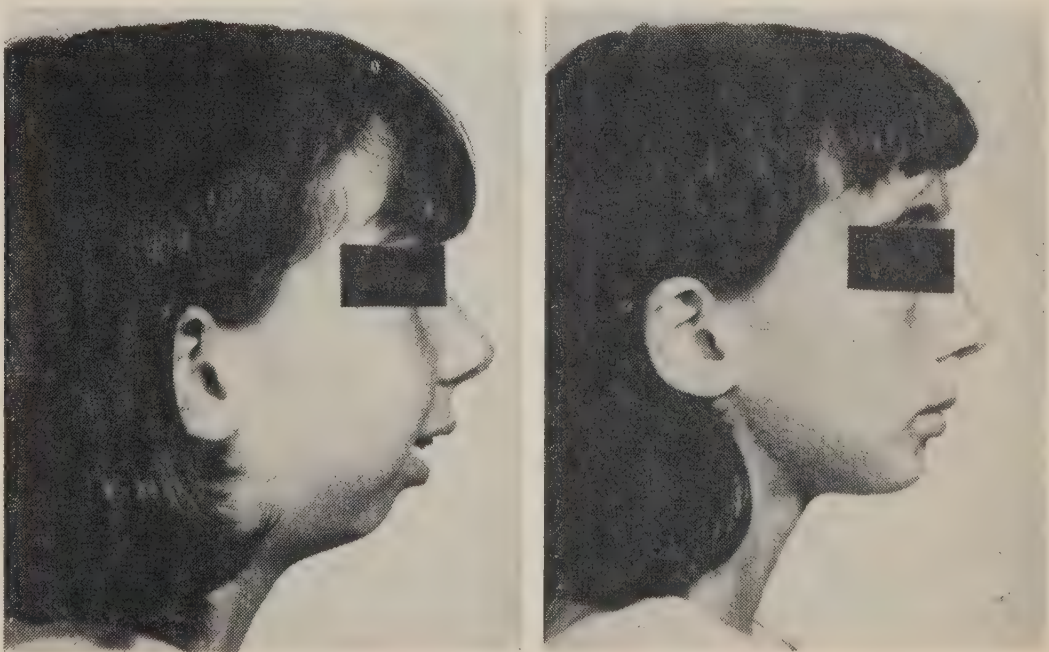


FIGURE 3 Retrognathism due to agenesis of the condyles. Pre-operative and postoperative view following surgical lengthening of the ascending rami and insertion of a silastic chin implant.

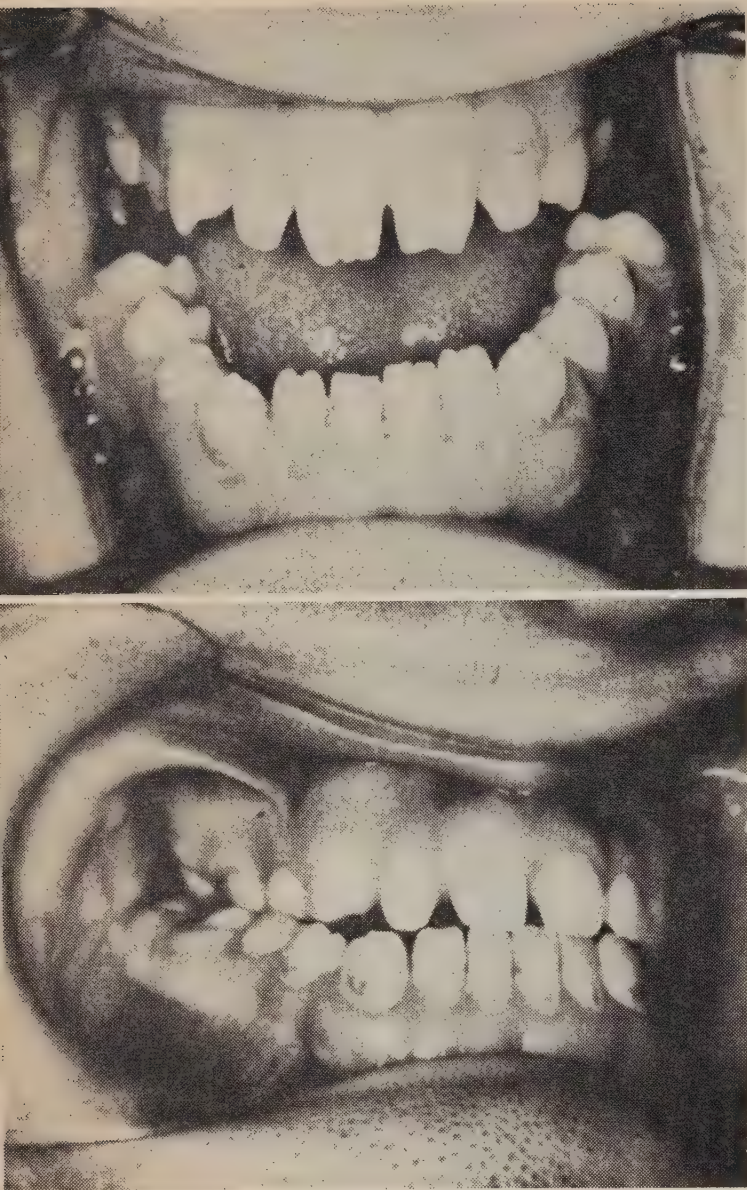


FIGURE 4 Apertognathia with some prognathism. Pre-operative and postoperative occlusion.

oped maxilla. Relative prognathism is often seen in patients with cleft lip and palate.

Retrognathism. — This condition may simply reflect distoclusion of teeth or may result from underdevelopment of the mandible-micrognathism (Figure 3). A common observation in both conditions is the forward inclination of mandibular anterior teeth. This is due to pressure exerted by the tongue, especially during active growth periods.

Apertognathia. — Commonly known as ‘open bite,’ this deformity is characterized by space between the maxillary and mandibular anterior teeth when some of the posterior teeth are in contact (Figures 4 and 5). It may be developmental or acquired. The ascending rami seem unduly short and underdeveloped, causing downward rotation of the anterior part of the mandible. Faulty tongue habits will also produce an open bite deformity. The anterior segments of both jaws may be affected.

The three types of mandibular deformity can occur singly or in combination (Figure 6). The resultant defect is seldom symmetrical.

PRE-OPERATIVE ANALYSIS

A prime object in mandibular surgery is to establish correct dental occlusion.



FIGURE 5 Open bite deformity of mandible (apertognathia.) Pre-operative and postoperative appearance.



FIGURE 6 Combined prognathism and open bite. Pre-operative and postoperative facial profile, panoramic radiographs and occlusion. The lingually inclined incisors can be straightened by orthodontic treatment or by allowing space when establishing the anterior occlusion. In this patient maxillary molar and anterior occlusal function was established after surgery.



Prior to the operation, several study casts are therefore made from impressions of the teeth. These help to reveal the occlusal relationship and indicate possible postoperative results. Not until the casts are mounted on an articulator can one determine the extent and direction of changes necessary in repositioning the mandible (Figures 7 and 8). The body of

the mandible may have to be shifted into an entirely different plane. An analysis of the articulated casts is therefore useful in selecting the surgical approach and the site of operation.

Splints are made for patients with insufficient posterior teeth; these help to maintain the correct interocclusal distance between the alveolar ridges. In

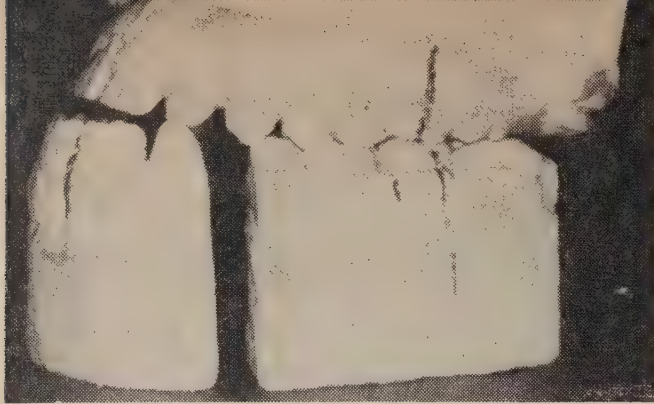


FIGURE 7 Study casts are essential in planning a surgical procedure. These casts illustrate mismatched arches. The left mandibular first bicuspid was removed and a segment of jawbone excised to narrow the mandibular arch. The ascending ramus of the major bone fragment was then sectioned and the latter was retracted to establish a better occlusal relationship.

completely edentulous patients, splints are wired into place during surgery in order to retain the bone fragments in the most suitable position for eventual prosthesis. Circum-mandibular or circumzygomatic wiring is used for this purpose. The splints are wired together after osteotomy has been performed bilaterally on the ascending rami and the body of the mandible moved to the desired position.

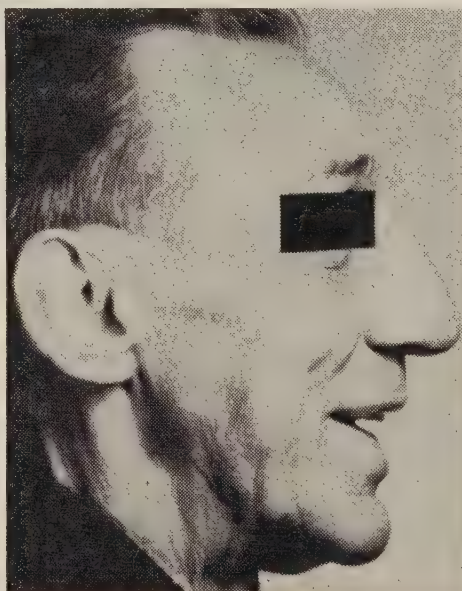
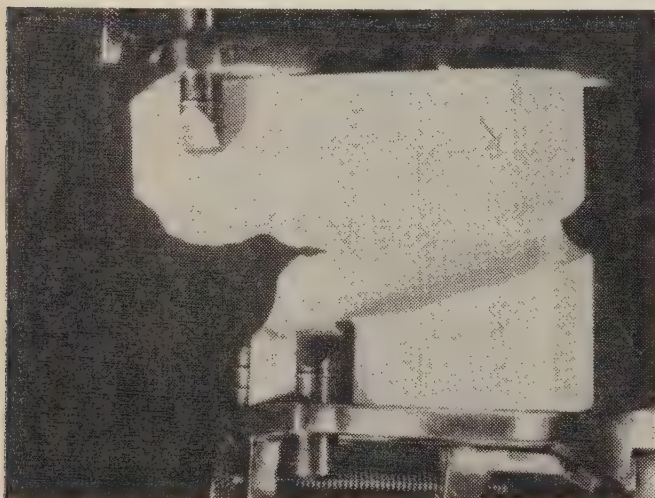


FIGURE 8 Mounted pre-operative study casts show extreme malrelation of the jaws in an older patient with a serious denture problem. Subsequent realignment of the alveolar ridges gave relief and improved his profile.

RADIOGRAPHY

Radiographs help to determine the extent and nature of the deformity. Standard views as well as cephalometric and panoramic views are obtained. Panoramic views are particularly useful in comparing one half of the mandible to the other and in providing an overall view of both jaws and their vertical relationship (Figures 2 and 6). Lateral cephalographs are an additional aid in analysing craniofacial growth and the extent of deviation from the normal.

ORTHODONTICS

Satisfactory articulation of the stone casts may not be feasible without prior orthodontic movement of certain teeth. The discrepancy in the size of the jaws or arches is occasionally so great that adequate occlusion is impossible following

FIGURE 9 Class III occlusal relationship in a girl aged 11 years 11 months. Pre-operative and postoperative profile.



surgery. The arches may have to be expanded or contracted before any matching of the jaws is obtainable. If the study cast teeth of adolescent patients can interdigitate, this suffices as further improvement will ensue naturally. However, corrective rotation can only be accomplished by orthodontic means. For adult patients who reject orthodontic treatment, the alternative is mandibular osteotomy, ostectomy at a selected site, and subsequent positioning of the fragments in a desired relationship with the opposing arch.

AGE

Formerly, surgery of a prognathic mandible was usually deferred until the jaw was fully grown, at age 19 or 20, to avoid possible recurrence of the condition.¹ There are distinct advantages, however, in operating at a much earlier age. Physiological maturity, rather than the chronological age, is of paramount significance. The youngest patient I have treated was a girl just under 12 (Figure 9). There is even a reported case where surgical correction was done at the age of nine;² and in micrognathism resulting from condylar growth dysplasias, serial bone grafting should likewise commence at an early age.³

The advantages of operating on adolescents are several. Young teenagers soon become very sensitive about the jaw deformity, sometimes with disastrous psychic effects. If the operation is performed early enough the adverse psychological trauma may be forestalled or corrected. Following repositioning of the mandible

in a young patient, the teeth will shift readily on their own account into harmonious occlusion.

Retrognathism, if beyond the realm of orthodontic treatment, is also amenable to surgical correction in the adolescent. The surgeon can anticipate the postoperative result with reasonable accuracy since the patient can readily move the mandible into a forward and improved relationship.

As a rule, therefore, the age shortly after the completion of major pubertal growth in height is probably most appropriate for these operations. Each case must, however, be assessed on its own merits.

In elderly persons, surgical correction may be done at any age provided the patient is in good health. Patients who retain sufficient natural teeth after surgery will benefit from easier immobilization of the mandibular fragments. Splints are necessary in other partially and fully



FIGURE 10 Erich bars and wires immobilize the fragments firmly. Subsequently, the wires can be replaced by elastics which can be removed at meal-times.

edentulous patients. Edentulous patients with gross malrelation of the jaws, who experience great difficulty in wearing dentures, benefit greatly from repositioning of the mandible. The body of the mandible may be moved into any position in any plane to achieve an optimum relationship between the denture-bearing mandibular and maxillary ridges.

THE MANDIBULAR ANGLE

The mandibular angle of prognathic mandibles varies considerably. Generally, it is more obtuse than in the normal mandible. This is of some consequence in designing the osteotomy. The shape of the gonial process may be improved considerably by osteotomy from the mandibular notch to a selected site at the gonion. By superimposing the proximal fragment on the anterior fragment the gonial angle may be sharpened considerably. The fragments may also be butted following some osteotomies. Additional contouring of the gonial process may be accomplished with rongeur forceps.

SITE OF SURGERY

Surgery on the malformed mandible is performed either on the body or the ascending rami.⁴ Conservation of teeth and alveolar bone is the main advantage in selecting the ascending rami for osteotomy or ostectomy. Another benefit is the restoration of normal molar occlusion; third molars which are out of occlusal contact can be restored to function and need not be removed. Conservation of bone and teeth in the body is of considerable significance to the patient who is, or may become, edentulous and require dentures. In patients with a molar crossbite, ostectomy through the body may be necessary to permit rotation of the proximal fragments into normal occlusal relationship. When the jaw relationship is satisfactory but the anterior dentoalveolar portions are discrepant, surgery may be limited to repositioning these segments and restoring a pleasing facial profile.

The method of choice in unilateral

prognathism may be oblique or vertical 'closed' osteotomy with a Gigli saw on the condylar portion of the normal side. Sometimes this technique used bilaterally is also suitable for a moderately prognathic mandible. Open surgical procedure through the submandibular approach of Risdon is more commonly employed, however, as this permits easy adjustment and immobilization of the fragments in the desired relationship.

In apertognathia the masseter, the internal pterygoid and some of the temporal muscles are detached more completely from the lateral and the medial surfaces of the ascending rami. The muscles are then repositioned anteriorly into a new relationship with bone, thereby obviating the tendency to relapse due to stretched muscles.

In retrognathism, osteotomy of the ascending rami is again the preferred procedure. The cut in bone is designed and the fragments are then related so as to lengthen the mandible. Mandibular anterior teeth that incline forward are straightened orthodontically prior to surgery; otherwise, though the teeth may be properly related, the chin will continue to appear deficient.

HOSPITALIZATION AND INCAPACITATION

Most patients are discharged from the hospital five or six days after surgery. Some have left on the second day after a closed osteotomy. During the last three or four weeks of immobilization intermaxillary wires may be replaced by intermaxillary elastics which can be removed at mealtime (Figure 10). Student patients usually return to school within seven to 10 days, with the jaws still immobilized. Some adults, however, choose to recuperate longer, although most carry on as usual in about two weeks. All patients are observed periodically for at least two years.

SUMMARY

Malocclusion due to a malformed mandible has many undesirable sequelae. The

most serious consequence is the psychic trauma in young persons resulting from abnormal jaw relationship and facial disfigurement. Surgery is therefore recommended at a much younger age than has been generally accepted heretofore. Older patients are also perturbed when their dentures do not function satisfactorily because of an adverse jaw relationship. These patients may be greatly helped in their masticatory function.

All of these patients require sympathetic consideration, careful evaluation and definitive treatment. The availability of a variety of surgical procedures makes it possible to correct any type of mandibular deformity. Some of the considera-

tions in the surgical management of these deformities have been briefly outlined.

Doctor Smylski is professor and head of the Department of Oral Surgery, University of Toronto, and head of the Division of Oral Surgery, Toronto General Hospital. This paper is based on an illustrated lecture presented to a surgical staff meeting at the Toronto General Hospital.

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in appreciation • remerciements

Listed below are the names of the individuals who freely gave of their time to review manuscripts and books for the Journal during 1969. On its own behalf and on that of its authors and readers, the Journal expresses sincere gratitude to these reviewers whose advice was so generously provided.

Nous mentionnons ci-dessous, la liste des personnes qui ont gracieusement consenti à reviser des manuscrits et à analyser des livres pour le Journal, au cours de l'année 1969. Au nom de ses auteurs, de ses lecteurs et en son propre nom, le Journal désire leur exprimer sa reconnaissance et les remercier pour leurs généreux conseils.

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Cet article fait le relevé de la profession dentaire au Québec au seuil de l'assurance-maladie. L'auteur est d'avis que l'instauration des soins dentaires aux assistés sociaux ne coûterait que \$2.5 millions et est en désaccord sur ce point avec le rapport de la Commission Castonguay qui recommande l'institution par étapes. Au même titre, il ne voit pas l'opportunité de donner priorité aux femmes enceintes. L'auteur confierait le paiement des honoraires à un organisme extra-gouvernemental indépendant de la Régie de l'assurance-maladie. Il suggère un élargissement des fonctions du personnel auxiliaire à la condition expresse que leurs actes soient sous la surveillance immédiate du dentiste. Le besoin d'auxiliaires dépendra surtout de l'orientation que prendra la profession à l'avenir.

participation des dentistes au régime de l'assurance-maladie

Doctor Simard assesses the dental profession's position poised on the threshold of inauguration of health insurance in Quebec. He differs with two proposals of the Castonguay Commission which would accord priority to expectant mothers but delay the introduction of other dental benefits. He contends that immediate introduction of dental benefits for social assistance recipients would only cost \$2.5 million. Fees, says Dr. Simard, should be paid by a non-governmental agency that is independent of the provincial health insurance commission. He suggests expansion of auxiliaries' duties provided these remain under the direct supervision of the dentist. He concludes that the need for auxiliaries will depend on future orientation of the profession.

Paul Simard, DDS, DHDP

Lévis, Qué.

Si par impossible Bismarck revenait faire un pèlerinage sur terre et qu'on lui dise que "le 20^e siècle est le siècle de l'Amérique: il lui a permis de dépasser largement l'Europe", il pourrait peut-être manifester une certaine réticence en songeant au domaine des mesures sociales, lui qui, le 31 mars 1883, faisait adopter par le Reichstag son projet de loi d'assurance-maladie.

Ce que l'assurance-maladie a fait couler d'encre et de salive, chez nous comme ailleurs! Il y a 20 ans, lors des réunions de nos sociétés dentaires, un même thème demeurait constamment à l'ordre du jour: "la répression de la pratique illégale de la dentisterie de la part des techniciens dentaires". Et déjà les plus perspicaces remarquaient alors: "Seule l'assurance-santé mettra fin à cette pratique illégale". La même prédiction continue à se faire dans les milieux qui s'intéressent encore à cette question.

On pourrait faire de longues spéculations sur la date à laquelle sera instaurée l'assurance-maladie pour soins dentaires sans que cet exercice mental n'apporte d'ailleurs beaucoup de lumière. Bornons-nous pour le moment à effleurer les sujets suivants ayant rapport à l'assurance-maladie pour soins dentaires:

— quel devrait être l'ordre de priorité relativement aux catégories de patients?

— quel devrait être le mode de rémunération pour les dentistes?

— de qui relèverait la fixation du taux des honoraires?

— quelle serait l'augmentation nécessaire du personnel auxiliaire?

— devrait-il y avoir une école spécialisée pour le personnel auxiliaire?

L'ORDRE DE PRIORITÉ RELATIVEMENT AUX CATÉGORIES DE PATIENTS

Les assistés sociaux — On sait qu'actuellement au Québec, en vertu de la loi de l'assistance médicale, le gouvernement fournit les soins médicaux aux assistés sociaux. On pourrait faire la remarque ici que cette norme des "assistés sociaux" n'est pas pleinement satisfaisante car elle ne tient pas compte des "indigents médicaux", de ces personnes qui ne sont pas

considérées comme économiquement faibles, mais qui cependant le deviennent lorsqu'elles doivent recourir aux services médicaux.

Cependant pour demeurer dans le contexte actuel, tenons-nous en pour le moment aux assistés sociaux. La loi de l'assistance-médicale ne couvre pas les traitements rendus par les dentistes, une lacune qui s'incruste et qui donne lieu à de nombreuses anomalies. Signalons les suivantes:

— le médecin est rémunéré pour des soins qui relèvent normalement du dentiste alors que ce dernier ne l'est pas, tel les alvéolectomies, les gingivectomies, les extractions avec kystes dentaires.

— les frais de certains soins étant assumés par le ministère de la Famille et du Bien-être, nombre de fonctionnaires réfèrent leurs protégés à des dentistes de leur choix et vont même jusqu'à demander des soumissions. Et suivant l'Association professionnelle des Chirurgiens-Dentistes du Québec, dans un texte soumis à l'honorable Jean-Paul Cloutier, il en résulte les conséquences suivantes:

(1) préjudice envers l'assisté social et discrimination et injustice à l'endroit du chirurgien-dentiste, dont l'unique champ d'action est la bouche et les dents;

(2) le patient doit se priver de soins auxquels il a droit ou recevoir des soins inadéquats;

(3) le chirurgien-dentiste doit donner gratuitement ces soins pour un même acte médical, alors que le médecin, omnipraticien ou spécialiste, est rémunéré, à même les impôts dont une partie provient du chirurgien-dentiste.

A notre avis, la Loi de l'Assistance médicale devrait être amendée sans délai pour que le dentiste soit au moins rémunéré pour les soins couverts par cette loi et relevant de son domaine. Encore mieux, la loi devrait permettre l'inclusion de tous les soins dentaires de base.

Il ressort d'une analyse que nous avons faite sur le coût annuel des soins dentaires de base dispensés en vertu de l'assistance sociale dans les provinces sises à l'ouest du Québec, qu'il s'établit en moyenne à \$7.22 par bénéficiaire. On peut donc prévoir que l'instauration d'une telle mesure pour tous les assistés sociaux,

représenterait au Québec des dépenses de l'ordre de 2.5 millions.

Nous ne sommes donc pas d'accord sur ce point avec la recommandation 20 du rapport de la Commission Castonguay qui veut que la couverture pour les soins dentaires aux assistés sociaux soit instituée par étapes.

La profession, par l'intermédiaire du Collège et surtout de l'Association professionnelle, a tenté à maintes reprises de sensibiliser le gouvernement en ce qui concerne les soins dentaires aux assistés sociaux. En vain, et pour longtemps encore, car sauf erreur, la loi de l'assistance médicale ne sera pas modifiée lors de la session courante. Devant cette surdité chronique, il me semble rester qu'un seul recours et c'est celui d'une grève perlée, comme celle que mènent les dentistes de la Colombie britannique qui ne dispensent que les soins d'urgence aux assistés sociaux.

Les enfants et les femmes enceintes. — Il y a unanimité pour que les premiers bénéficiaires de l'assurance-maladie soient d'abord les enfants en commençant par ceux de trois ou cinq ans et moins, et en procédant par étapes jusqu'à ce que tous les enfants de 18 ans et moins soient couverts. Nous ne discuterons donc pas de ce mode d'application.

Le rapport Castonguay accorde aux femmes enceintes le même degré de préséance qu'aux enfants (recommandation 18). La Commission Hall, pour sa part, recommande l'introduction d'un régime de soins dentaires pour les femmes enceintes dès 1971 (recommandation 50).

Nous ne voyons pas l'opportunité d'une telle priorité. Il peut y avoir un certain accroissement des affections bucco-dentaires en période de grossesse, mais pas à un point tel que l'on doive accorder un degré de priorité aux femmes enceintes, surtout si l'on songe aux inconvénients d'une telle mesure: nombre de femmes attendraient d'être enceintes pour recevoir des soins; même si l'on peut prodiguer des traitements à la femme en gestation, ce n'est tout de même pas le temps idéal pour ce faire. Pratique donc qu'on ne peut qualifier de préventive. Et que dire du contrôle?

LE TAUX DES HONORAIRES ET LA RÉMUNÉRATION DU DENTISTE

Selon les dispositions de la loi fédérale C 227 sur l'assurance-maladie, l'administration du régime relève d'un organisme gouvernemental ou extra-gouvernemental pourvu que ce dernier opère sans but lucratif. Ainsi en Nouvelle-Ecosse l'administration du régime sera confiée à la Maritime Medical Care Inc., une corporation de services médicaux sous la direction de la profession médicale.

Y aurait-il lieu de confier au Québec l'administration du régime à un organisme extra-gouvernemental? Si oui, à quel organisme? A une éventuelle corporation de services dentaires, comme il en existe dans plusieurs états américains, à la Croix-Bleue, aux Services de Santé du Québec, au Collège, qui dans son mémoire à la Commission Castonguay se déclarait disposé à administrer le régime de l'assistance-médicale pour soins dentaires? Autant de questions qui nous confrontent et qui doivent faire l'objet d'une étude sérieuse.

A ce sujet la Commission Castonguay se dit "d'avis que la loi sur l'assurance-maladie ne devrait pas compliquer indûment le système financier et administratif du régime, en permettant, par exemple, l'utilisation d'organismes dont la seule fonction serait d'agir de "bureau de poste" entre les professionnels et le gouvernement".

C'est vite régler la question. Nous sommes enclins à penser que la profession dentaire, et sans doute médicale, se sentirait plus en sécurité si elle transigeait avec une corporation sans but lucratif déjà expérimentée dans le domaine de l'assurance. Il y a lieu d'espérer, par exemple, que seraient alors éliminés ces longs délais dans le paiement des prestations qui sont pratique courante lorsque l'administration est confiée à un organisme gouvernemental.

Cette attitude peut sembler être en contradiction avec la Commission Castonguay qui recommande la formation d'une Commission de l'assurance-maladie "dont la tâche principale sera de gérer le régime d'assurance-maladie et d'effectuer l'intégration administrative des divers régimes

de soins curatifs". Il n'en est pas, car nous sommes d'avis que le paiement des honoraires peut être confié à un organisme extra-gouvernemental et qu'une Commission de l'assurance-maladie peut quand même être mise sur pied et devenir responsable de toute l'administration *sauf celle du paiement des honoraires*.

A ce chapitre, nous partageons l'opinion de la Commission Castonguay "qui veut que cette commission soit composée de représentants du gouvernement, du public et des professions de la santé" (recommandation 36); aussi qu'un comité de dentistes-conseils soit formé "pour examiner et décider en dernier ressort des cas difficiles d'évaluation, du bien-fondé des demandes de paiement" (recommandation 37). Toutefois ce comité serait en relation avec *l'organisme proposé au versement des prestations* et n'appartiendrait pas à la Commission de l'assurance-maladie comme le veut la Commission Castonguay. Il va de soi que nous acquiesçons à ce que le contrôle de l'activité des professionnels, par conséquent des dentistes, soit exercé par le Collège (recommandation 39).

LE TAUX DES HONORAIRES

Quant à la fixation du taux des honoraires, il y aurait d'abord lieu de faire l'unanimité au sein de la profession. Dans ce domaine nous fondons de grands espoirs sur les futures recommandations du Comité de liaison formé par les représentants du Collège, de l'Association dentaire de la Province de Québec et de l'Association professionnelle des Chirurgiens-Dentistes du Québec.

Pour ce qui est de la façon d'établir le tarif, nous avons foi en la méthode de la valeur relative. Le Comité des services dentaires de l'Association dentaire canadienne a fait un travail considérable en ce domaine et l'on ne peut négliger ses données. Les "composants" de l'unité de valeur relative sont:¹

(1) le temps;

(2) la responsabilité — constituée des facteurs suivants: (a) connaissance; (b) jugement; (c) dextérité, clinique et technique.

(3) les frais de laboratoire.

Une fois l'échelle d'honoraires établie, il s'agit de transiger avec la partie gouvernementale. D'après la logique même et à la lumière des négociations menées par les médecins, en parfait accord avec l'opinion de la Commission Castonguay, cette tâche de la négociation doit être confiée à un organisme dentaire opérant en vertu de la loi des syndicats professionnels. Les esprits droits qui se sont donnés la peine de se pencher sur la question savent qu'il n'y a pas d'alternative. Le moment n'est plus à l'interrogation, mais à l'action. Il est grand temps que les dentistes du Québec se serrent les coudes au sein d'une association, quelque soit son nom, bien habilitée à défendre leurs intérêts.

LE PERSONNEL AUXILIAIRE

Les questions qui nous sont posées à ce sujet sont les suivantes:

— quelle serait l'augmentation nécessaire du personnel auxiliaire?

— devrait-il y avoir une école spécialisée pour le personnel auxiliaire?

Nous allons d'abord faire quelques distinctions et il sera alors plus facile de situer ces questions dans une optique mieux délimitée.

Le personnel auxiliaire dentaire est composé: (a) des techniciens; (b) des hygiénistes; (c) des assistantes.

Les techniciens. — Nous ne parlerons pas de la question des techniciens non seulement parce qu'on devrait procéder à une étude en profondeur de ce sujet avant d'en faire l'objet de longues discussions, mais surtout parce que la profession ne souffre pas actuellement d'une véritable pénurie de techniciens.

Les hygiénistes et les assistantes. — Là nous tombons dans un terrain vierge. Nous accusons en ce domaine un retard à en faire pleurer. "Des 10 heures qu'a duré mon dernier examen médical de routine, je n'ai passé qu'une heure avec mon médecin . . ." déclarait le Dr W. E. Brown, professeur et titulaire de l'enseignement pré et postgrade du W. K.

Kellogg Foundation Institute de l'université de Michigan alors qu'il abordait ce sujet à la Conférence nationale de la santé dentaire de 1967. Cette délégation de pouvoirs qui existe depuis longtemps déjà en médecine met bien en évidence le piétinement de la profession dentaire en ce domaine.

ÉCOLES POUR LE PERSONNEL AUXILIAIRE

Avant de se demander: "Combien nous faut-il d'hygiénistes et d'assistantes? Combien nous faut-il d'écoles pour les former?", il faut se poser la question: "Qu'est-ce que nous attendons de ces auxiliaires? Qu'est-ce que la profession désire qu'elles fassent?"

Si les fonctions de l'hygiéniste sont pour demeurer ce qu'elles sont actuellement, la demande ne sera pas forte. Tout au plus pourrait-elle l'être de la part de la Division dentaire du ministère de la Santé car le travail d'éducation et de prévention que l'on confie à des dentistes peut être fait par des hygiénistes. Cette politique coûterait moins cher à l'état, car la préparation d'une hygiéniste est moins longue que celle d'un dentiste, et de plus empêcherait la décimation des rangs des dentistes, déjà trop peu nombreux. Il y aurait donc lieu de fonder une école d'hygiéniste, même si leurs prérogatives ne sont pas augmentées.

Pour ce qui est des assistantes dentaires, si leurs tâches se résument à celles d'ouvreuse, de téléphoniste, de femme de peine et de malaxeuse, point n'est nécessaire de mettre sur pied des écoles en vue de leur formation. Une série de cours comme ceux qui se donnent dans le cadre de l'extension de l'enseignement à l'Université de Montréal leur apporte la formation désirée. Il s'agirait simplement de rendre des cours semblables accessibles dans d'autres régions de la province. Les dentistes du Lac St-Jean, par exemple, ont donné eux-mêmes aux futures assistantes un cours qui semble avoir été fructueux.

Je crois bien que la majorité des dentistes du Québec est d'accord en ce qui concerne l'urgence d'avoir un personnel auxiliaire plus nombreux et mieux quali-

fié afin de contrebalancer ce manque d'effectifs dentaires et surtout afin de rendre les soins dentaires accessibles à plus de gens. Il faut bien nous rentrer dans la tête que les efforts faits en vue de la préparation du personnel auxiliaire doivent l'être dans le but non pas de faire plus d'argent mais bien dans celui de dispenser nos soins à une plus grande tranche de la population, car à mon avis, nous prodiguons au Québec moins de 10 p.c. des soins que la santé dentaire de la population requiert. Et ça, c'est catastrophique.

Pour corriger cette situation, il est donc urgent que la profession dentaire fasse appel à un personnel auxiliaire compétent. La profession doit consentir à une délégation de fonctions et elle doit sans délai, faire connaître sa position. Car comment demander la fondation d'écoles pour ce personnel si on ne détermine pas, enfin, ses futures prérogatives. Le gouvernement est prêt à marcher dans ce sens, mais c'est nous qui marquons le pas. Et si le passé est garant de l'avenir, nous allons le marquer encore longtemps. Il serait pourtant simple de faire un inventaire et une analyse des études où l'on a confié à des assistantes des opérations ordinairement accomplies par le dentiste. La profession réaliserait ainsi jusqu'à quel point les résultats sont prometteurs et, de la sorte, se déciderait peut-être à prendre enfin position.

A ce chapitre, l'étude faite par la faculté dentaire de l'université de l'Alabama revêt un grand intérêt. La voici en bref:

Avec l'aide d'un psychologue une sélection très sérieuse de jeunes filles diplômées du high school est accomplie grâce à des tests d'intelligence, d'aptitude, de personnalité. Celles qui ont été choisies ont suivi un cours de deux ans et ont appris: (1) la mise en bouche de la digue; (2) la mise en bouche des matrices; (3) l'insertion et la finition des substances obturatrices (amalgames et silicates).

Leurs travaux ont été comparés à ceux des étudiants en chirurgie dentaire. Cette évaluation a été faite par des praticiens et non des professeurs de la faculté. Les résultats ont été meilleurs chez ces jeunes filles que chez les étudiants. La différence notée entre les deux groupes avait une

véritable valeur statistique. Cette expérience n'est pas la seule à prouver que l'on peut confier une partie de notre travail à des assistantes qualifiées.

Une certaine faction de la profession voit un danger majeur à une telle délégation de fonctions qu'elle considère comme une porte ouverte à l'empiétement. Cette menace n'est pas à écarter du revers de la main, soit, mais elle ne doit pas être un motif d'inaction. L'important dans cette question consiste à établir la position suivante d'une façon très nette et avec la dernière intransigeance: nous acceptons une délégation de pouvoirs à la condition expresse que les actes posés par le personnel auxiliaire le soient sous la surveillance immédiate du dentiste. De cette façon le bien-être et de la population et de la profession est sauvegardé. A mon avis, c'est là que se trouve le nœud du problème.

Il y aurait d'autres questions à aborder pour faire un tour d'horizon complet. Par exemple, le recours aux mesures préventives. Quel sera-t-il dans les années à venir? Si la fluoration se généralise et si en plus l'on répandait à l'école la pratique de l'autoprophyllaxie avec une pâte fluorée qui apporte au-delà de 60 p.c. de réduction lorsqu'accompagnée de l'usage d'un dentifrice fluoré, le tableau pourrait changer. Si les dentistes de demain orien-

tent leurs pratiques vers la prévention, comme cela se fait de plus en plus aux E.-U., le tableau pourrait encore changer. Quelles pourraient être alors les répercussions d'une telle orientation sur la formation du personnel auxiliaire? Nul ne saurait dès maintenant l'évaluer avec précision. La question des auxiliaires masculins, beaucoup plus stable que le personnel féminin, pourrait aussi faire l'objet de réflexions.

Il ne serait donc pas sage d'avancer un chiffre quant aux besoins en écoles d'auxiliaires tant que nous ne nous serons pas arrêtés aux interrogations plus haut posées, tant que nous ne saurons pas ce qu'est la volonté de la profession, tant que nous ne saurons pas aussi l'utilisation qu'elle fera de ces assistants. Il faut donc procéder par étapes . . . mais procéder. N'y a-t-il pas là matière à discussion?

Ce texte fait partie d'une conférence donnée par le docteur Simard aux membres de la Société dentaire de Montréal en novembre 1968 et qui fut rapportée dans le *Bulletin mensuel* de la Société (Vol. 10, No 7, mai 1969).

1. L'Association dentaire canadienne. Délibérations 1965. Comité des services dentaires. Annexe A: Méthode de la valeur relative pour fixer les honoraires, p. 167.

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